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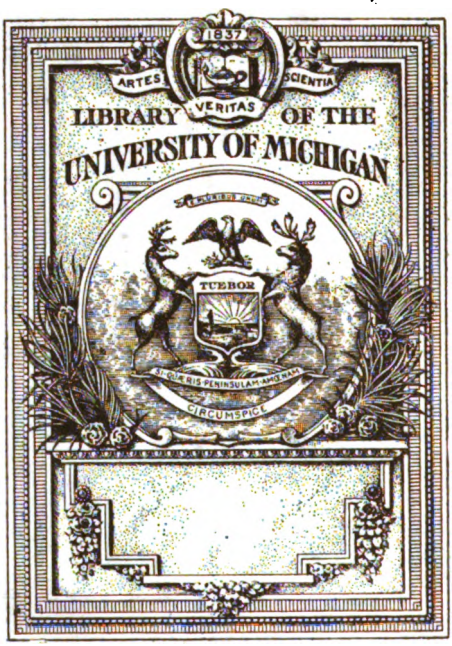

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Bird-Lore

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INDEX TO ARTICLES IN VOLUME XIX
BY AUTHORS

Ainsworth, Mrs. Henry A., Christmas Census, 29.
Allen, Arthur A., Photographs by, 10, 199, 202, 253.
Allen, Mary Pierson, Christmas Census, 21.
Anderson, A. J., Bird-Boxes and Signboards, 148.
Anderson, Harold, Notes on the Varied Thrush at Bellingham, Wash., 273.
Andrews, Theodore, Christmas Census, 27.
Armstrong, Emily C. H., A Singing Blue Jay, 336.
Ashby, Clifton and Robert, and Joseph C. Jones, Christmas Census, 27.

Bagg, Aaron C., Christmas Census, 14.
Bailey, Prof. H. C., see Handley, Charles O.
Baker, Myles P., Christmas Census, 13.
Barnekoff, Irene, Gulls at Bandon, Oregon, 224.
Barrows, Charlotte M., Evening Grosbeak in Pittsfield, Mass., 42.
Barrows, Mrs. W. F., Photograph by, 85.
Beard, Pearl M., Christmas Census, 26.
Beck, Herbert H., and Abraham Beck Miller, Christmas Census, 22.
Beebe, Ralph, Christmas Census, 33.
Bennett, Walter W., see Lindsey, Arthur.
Bergtold, W. H., Christmas Census, 36; Denver Region, 340.
Bicknell, E. P., Christmas Census, 18.
Bicknell, Mrs. F. T., and Mrs. Robert Fargo; Miss Helen S. Pratt and Mrs. W. L. Brownlee; Mr. L. E. Wyman; Dr. E. A. Dial and Mrs. Warren Martz; Mr. Alfred Cookman and Mr. John B. Frederick, Christmas Census, 38.
Bigelow, R. P., A Boston Wood Duck, 171.
Black, Edward, see Mead, Raymond.
Blanchard, George C., Christmas Census, 13.
Bohlman, H. T., Photographs by, 418, 419.
Bourne, Thomas L., Christmas Census, 18.
Bowdish, B. S., Interesting Winter Bird Records in Northern New Jersey, 149; Annual Report, 456.
Bowdish, L. F., and Edward Fleisher, Christmas Census, 21.
Brainerd, Barron, see Kittredge, J., Jr.
Brehmer, Louis F., photographs by, 311, 312, 313.
Brewer, Charles, Jr., see Eaton, Warren F.
Brewster, W. L., Jr., see Strong, W. D.
Brimley, C. S. and Edward Brimley, Christmas Census, 27.
Brisgualine, George, Letter from, 177.
Brooks, Major Allan, Birds in the War-Zone, 2.
Brown, Mrs. A. C., Starlings at Providence, R. I., 148.
Brown, Howard C., A Bird Record of Note, 227.
Brownlee, Mrs. W. L., see Bicknell, Mrs. F. T.
Bruen, Frank, see Smith, E. E.
Burdick, R. T., A White Swallow, 208.
Burleigh, Thos. D., and Albert D. McGrew, Christmas Census, 23.
Burns, F. L., The Schuylkill Heronries, 197.
Burtch, Verdi, Photographs by, facing 127; 318, 341; The Great Blue Herons of Honeoye, 73; The Summer Life of the Virginia Rail, 243.

Calvert, J. F., see McIlwraith Ornithological Club.
Campbell, A. L., Photographs by, 362, 363.
Cannon, Gabriel, Christmas Census, 28.
Carr, Mary E., see Taylor, Alex. R.
Carlson, Marjorie, Poem by, 227.
Cartwright, W. J., Christmas Census, 15.
Case, Clifford M., Christmas Census, 16.
Caskey, R. C., Christmas Census, 21; Evening Grosbeaks at Morristown, N. J., 93.
Chapman, Frank M., A Condor's Quill, 5; Editorials by, 47, 98, 157, 215, 281, 345; Notes on the Plumage of North American Birds, 39, 86, 262, 330; Reviews by, 45, 95, 96, 155, 156, 213, 278, 279.
Chelton, R. B., Evening Grosbeak in Ontario, 93.
Childs, Helen P., Secretary, Report of, 440.
Christy, Bayard H., and Francis H. Hegner, Christmas Census, 32.
Clark, L. Elizabeth, A Leaf from Rose-breast's Life, 268.
Clise, J. W., see Colwell, Mrs. J. I.
Collings, Robert S., The Summer Tanager, 226.
Colwell, Mrs. J. I. and Mr. J. W. Clise, Jr., Christmas Census, 37.
Congdon, Frances, see Potter, Mabel L.
Cookman, Mr. Alfred, see Bicknell, Mrs. F. T.
Coon, W. Edwin, A Note on the Barred Owl, 266.
Cooper, Carrie, A Method of Bird-Study, 56.
Corriston, J. Wilson, Christmas Census, 23.
Cowing, Herbert L., Strange Behavior of a Robin, 336.
Craigmile, Miss Esther and Mrs. C. E. Raymond, Christmas Census, 30.
Cramer, William G., Secretary, Report of, 459.
Crawfer, Phillip and I. H. Johnston, Christmas Census, 26.
Crecilius, Alice, Method of Indoor Study, 289.
Criss, Avis, Photographs by, 138, 212.
Crosby, Maunsell S., Christmas Census, 20; Photograph by, 309.

Dadisman, A. J., Lark Sparrows near Grafton, W. Va., 92.
Dale, E. M., see McIlwraith Ornithological Club.
Daly, E., see McIlwraith Ornithological Club.
Danforth, Stuart T., Christmas Census, 12.
Danner, May S., A Practical Bird-Bath, 207.
Danner, May S., and Mary King, Christmas Census, 31.
Darlington, Philip J., A Partridge Family, 224.
Darnell, Alice C., see Mickle, Anna A.
Dean, J. and F. D. Terry, Bohemian Waxwings in Seattle, Wash., 92.
Dean, R. H., Christmas Census, 29.
Deber, Miss Cora and V. F., Christmas Census, 32.
Decker, Harold K., Christmas Census, 19.
Deeter, Anna P., and Mary E., Christmas Census, 23.
Delamare, Henrietta E., A Song from the Nest, 206.
DeNormandie, James, Kingfishers in Lincoln, Mass., 170.
Dial, Dr. E. A., see Bicknell, Mrs. F. T.
Dixon, Joseph, Children of the Midnight Sun, 185.

330503

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Doane, Walter, Christmas Census, 24.
Douglass, Miss Mary, A Junior Audubon Society in an Historic Schoolhouse, 290.
Downhour, Elizabeth H., Secretary, Report of, 446.
Duke, Allen, What I am doing for Birds, 54.
Dunbar, Lulu, Christmas Census, 33.
Dunton, Edith K., Taming Evening Grosbeaks, 310.
Dwight, Dr. Jonathan, reviews by, 214, 279, 344.

Eaton, E. H., see Eddy, William.
Eaton, Warren F., Paul Winsor, Jr., and Charles Brewer, Jr., Christmas Census, 15.
Eddy, William, and E. H. Eaton, Christmas Census, 18.
Edson, Wm. L. G., and R. E. Horsey, Christmas Census, 20.
Egan, Scoutmaster John, Scouts Harold Groth, Ed. Schmidt and Theodore Krueger, Christmas Census, 33.
Ehinger, George E. and Eddie L., Christmas Census, 30.
Eliot, Samuel A., Jr., Seventeen Warblers in A Single Willow Tree, 203.
Ericson, Leonard A., Migration on the Great Lakes, 272.
Evans, Conroy, From a Starch-Box to a Twenty-six Room Martin House, 53.
Evans, William B., see Mickle, Anna A.
Evans, William B., and George H. Hallett, Jr., Christmas Census, 21.

Fair, Wm. W., Christmas Census, 22.
Fanton, Gladys, How to Attract Hummingbirds and Goldfinches Around a House, 170.
Fargo, Mrs. Robert, see Bicknell, Mrs. F. T.
Figgins, J. D., Winter Visitors to City Park, Denver, Colo., 305.
Finks, Louis, see Noble, James.
Finley, William L., Field Agent, Annual Report, 417.
Fisher, A. K., W. L. McAtee, E. A. Preble, and Alex Wetmore, Christmas Census, 25.
Fisher, G. Clyde, Christmas Census, 29.
Fisher, Mrs. G. Clyde and Ruth Anna, see Wiley, Farida.
Fisher, M. L., Christmas Census, 31.
Fleischer, Edward, Yellow-throated Warbler in Brooklyn, N. Y., 150.
Fleischer, Edward, and Henry L. Otten, Christmas Census, 19; see Bowdish, L. F.
Forbush, Edward Howe, Field Agent, Annual Report, 407.
Fordyce, George L., Volney Rogers, C. A. Leedy, and Mr. and Mrs. Willis H. Warner, Christmas Census, 33.
Frederick, John B., see Bicknell, Mrs. F. T.
Freshwater, Mrs. M. R., see Williams, Ruth Myhan.
Fuertes, Louis Agassiz, Colored Plates by, facing 1, 73, 243, 305.
Fulton, J. W., and Leonard Lyons, Christmas Census, 30.

Gabrielson, Ira N., and E. R. Kalmbach Christmas Census, 24.
Gallup, Fred, A Substitute for a Hollow Limb, 139; Christmas Census, 37.
Ganier, A. G., Christmas Census, 29.
Gardener, Mrs. Arthur F., A Successful Bird-Bath, 141.
Glover, Helen W., Secretary, Report of, 440.
Gormley, Liguori, see Macnamara, Charles, 12.
Gorst, Charles Crawford, Field Agent, Annual Report, 433.
Goulding, Emilie, see Sadler, Nettie M.
Granger, Walter, The Giant Bird Diatryma, 193.
Grant, W. W., Photograph by, 69.
Graves, Bessie M., Christmas Census, 15.
Graves, Frances M., Christmas Census, 16.
Gray, Drs. Earle V., and Anne E. Perkins, Christmas Census, 17.
Gray, George W., Christmas Census, 19.
Gray, W. E., and W. E. Gray, Jr., Christmas Census, 30.
Gregory, Florence L., see Williams, Ruth Myhan.
Greenleaf, Miles, L. O. Horsky, Wm. Marsh, and Dr. S. R. Towne, Christmas Census, 34.
Grinnell, Private Lawrence, Bird Life on the Border as Seen by a National Guardsman, 144.
Griscom, Ludlow, see Johnson, J. M.; see Nichols, J. T.
Griswold, Geo. T., Christmas Census, 16; see Vibert, C. W.
Groth, Harold, see Egan, Scoutmaster John.

Hagar, Joseph A., see Kittredge, J., Jr.
Hall, Mrs. Cuthbert, Smoke Trees and Purple Finches, 93.
Hall, James, and Wilbur F. Smith, Christmas Census, 17.
Hallett, George H., see Evans, William B.; see Mickle, Anna A.
Handley, Charles O., Harry E. Handley, and Prof. H. C. Bailey, Christmas Census, 26.
Hannum, W. E., and James M. Sanford, Christmas Census, 28.
Hansen, Harold E., Walter A. Squires, C. R. Thomas, and Jesse Klapp, Christmas Census, 38.
Harper, Francis, David Lee, and Farley Lee, Christmas Census, 28.
Harrington, Mrs. J. L., An Experience with a Robin, 259.
Harris, Edward, Sr., Prairie Horned Lark in Maryland, 92.
Harris, Harry, see Hoffman, Ralph.
Harrison, Richard Edes, and John B. Derby, Evening Grosbeak in Connecticut in May, 204.
Harter, Mrs. George A., Helpful Young Bluebirds, 94.
Hathaway, Harry S., Christmas Census, 15.
Hauxhurst, G. I., see Kelly, Robert.
Heacock, Esther, Photograph by, 68; see Noble, Jane G.
Hegner, Francis H., see Christy, Bayard H.
Hemstreet, Albert B., Near a Woodpecker, 362.
Hemstreet, Mrs. Delia, Bird-Study Brings Its Own Reward, 55.
Henderson, H. H., Unusual Visitors at Feeding Table, 269.
Higgins, J. C., see McIlwraith Ornithological Club.
Higgins, Miss Joy Montgomery, Secretary, Report of, 450.
Hitchcock, Margaret S., A Stone Bird-Bath, 144; Two Baby Hummers, 79.
Hix, George E., Clark L. Lewis, and Edward G. Nichols, Christmas Census, 19.
Hoffman, Ralph, Charles Tindall, Wm. Michaels, and Harry Harris, Christmas Census, 34.
Holt, Ernest G., see Marbott, Douglas C.
Horsfall, R. Bruce, Colored Plates by, facing, 60, 112, 364.
Horsky, L. C., see Greenleaf, Miles.
Houghton, Clarence, Christmas Census, 17.

Digitized by Google

Howe, Inez Addie, and Mabel Agnes Shields, Christmas Census, 13.
Humphrey, Constance, Pickerel Catching Swallow, 94.

Jenness, Perley M., Christmas Census, 12.
Job, Herbert K., Annual Report, 421; Photographs by, 423, 426, 427.
Johnston, I. H., see Crawfer. Phillip.
Johnson, J. M., J. T. Nichols, and Ludlow Griscom, Christmas Census, 26.
Johnson, Lena Leoti, Dressed in White, 208.
Jones, Joseph C., see Ashby, Clifton.
Jones, Lynds, Oberlin Region, 153, 212, 340.
Jones, S. Paul, see Morgan, Miss May.
Judd, Robert S., Kildeer in Connecticut, 265.

Kalmbach, E. R., see Gabrielson, Ira N.
Kelley, Robert, and G. I. Hauxhurst, Christmas Census, 32.
Kent, Edward G., The Cape May Warbler, 264.
Kimes, Edward D., Christmas Census, 31.
King, Louise Robinson, The Truth about Cats and Birds, 110.
King, Mary, see Danner, May 8.
Kittredge, J., Jr., Joseph A. Hagar, Barron Brainerd and James L. Peters, Christmas Census, 15.
Klapp, Jesse, see Hansen, Harold E.
Krueger, Theodore, see Egan, Scoutmaster John.
Kugler, Marie, The Education of a Robin, 65.

LaDow, Mr. and Mrs. Stanley V., Christmas Census, 26.
LaDue, Harry J., Christmas Census, 33.
Larrabee, Austin, P., Christmas Census, 34.
Latham, Roy, Bird Notes for 1916 from Orient, L. I., 143.
Lathrop, Mrs. Robert, Pine Grosbeak in Illinois, 43.
Laughlin, J. A., Christmas Census, 35.
Learned, A. G., Photographs of a drawing by, 233, 373.
Lee, David and Farley, see Harper, Francis, 28.
Lee, John C., An Effective Feeding Device, 8; The Wellesley Bird-Box, 90.
Leedy, C. A., see Fordyce, George L.
Lewis, Clark L., see Hix, George E.
Lewis, Clark L., Jr., American Egrets in New York City, 251.
Lindsay, Mrs. Eugene D., The Western Meadowlark and Other Birds near Edmonds, Wash., 274.
Lindsey, Arthur, and Walter W. Bennett, Christmas Census, 33.
Linton, M. Albert, see Mickle, Anna A.
Lippincott, Joseph W., The Barn Owl's Voice, 275.
Logue, Mrs. Ida L., Christmas Census, 36.
Loveland, Lillian S., An Albino Grackle, 208.
Lundwall, Nelson, Christmas Census, 36.
Luther, Caroline D., The Value of Charts and Pictures of Birds, 104.
Lyons, Leonard, see Fulton, J. W.

Macklin, Theodore, Our Neighbors of the Grape Vine, 127.
Macnamara, Charles, and Liguori Gormley, Christmas Census, 12.
Madison, H. L., Cardinal in Rhode Island, 94.
Madison, H. L., Secretary, Report of, 461.
Mallory, W. B., Christmas Census, 34; The Tenant of a Back-Yard Brush-Heap, 145.
Marble, Richard M., Christmas Census, 13.
Marbott, Douglas C., and Ernest G. Holt, Christmas Census, 24.
Marsh, Earl, and D. W. Marsh, Christmas Census, 15.
Marsh, Wm., see Greenleaf, Miles.
Martin, G. A., Secretary, Report of, 458.
Martz, Mrs. Warren, see Bicknell, Mrs. F. T.
May, John B., M.D., Cedar Waxwings at the Pool, 142; Christmas Census, 14.
McAtee, W. L., see Fisher, A. K.
McCamant, Tom, see Strong, W. D.
McConnell, Harry B., John Worley, and Raymond Timmons, Christmas Census, 31.
McConnell, Thos. L., and L. F. Savage, Christmas Census, 23.
McDowell, R. W., The History of a Martin-House, 146.
McGrew, Albert D., see Burleigh, Thos. D.
McIlwraith Ornithological Club, Christmas Census, 12.
McIver, John, see Noble, James.
Mead, Raymond, Bert Moore, and Edward Black, Christmas Census, 30.
Mellott, S. W., Christmas Census, 24.
Mengel, Mr. and Mrs. Henry, Christmas Census, 23.
Metzger, Edward, Christmas Census, 32.
Michaels, Wm., see Hoffman, Ralph.
Mickle, Anna A., Alice C. Darnell, M. Albert Linton, George H. Hallett, Jr., and William B. Evans, Christmas Census, 21.
Miller, Abraham Beck, see Beck, Herbert H.
Miller, Ansel B., Christmas Census, 23.
Miller, W. DeW., Christmas Census, 22.
Miner, Mr. and Mrs. Leo D., and Raymond W. Moore, Christmas Census, 25; see Moore, Mrs. Edgar W.
Moore, Adelaide L., Poem by, 111.
Moore, Arthur, see Williams, Ruth Myhan.
Moore, Bert, see Mead, Raymond.
Moore, Mrs. Edgar W., Clarence R. Shoemaker, Mr. and Mrs. Leo D. Miner, and Raymond W. Moore, Christmas Census, 25.
Moore, Raymond W., see Miner, Mr. and Mrs. Leo D.; see Moore, Mrs. Edgar W.
Morgan, May, and S. Paul Jones, Christmas Census, 33.
Morgan, William I., A Remarkable Nesting-Site, 139.
Moses, Bert M., Winter Boarders, 333.
Munger, Edwin H., Christmas Census, 16.

Nature Club, Christmas Census, 13.
Neff, Johnson, Christmas Census, 35.
Nelson, Mr. and Mrs., and D. W. Pumyea, Christmas Census, 22.
Nichols, Edward G., and Mr. and Mrs. L. N., Christmas Census, 18; see Hix, George E.
Nichols, J. T., and Ludlow Griscom, Christmas Census, 18; see Johnson, J. M.
Nicol, Jessie, see Williams, Ruth Myhan.
Nisbet, M. C., A Wren Nest Tragedy, 264.
Noble, James, John McIver, and Louis Finks, More Methods of Studying Birds in Junior Audubon Societies, 291.
Noble, Jane G., and Esther Heacock, Christmas Census, 24.
Norton, Arthur H., Remarks on the Nesting Habits of Swallows, 257; Annual Report, 414.
Norton, William, An Iowa Cardinal, 271.
Novak, Frank, Christmas Census, 16.

Oberholser, Harry C., Washington Region, 153, 211, 277, 340; A Remarkable Roost in the City of Washington, 315; The Migration of North American Birds, 320.

Digitized by Google

Oldys, Henry, Report of, 421.
Otten, Henry L., see Fleischer, Edward.
Over, W. H., and W. M. Willy, Christmas Census, 34.
Overton, Dr. Frank, Photograph by, 406.

Packard, Reginald, see Sedwick, James.
Packard, Winthrop, Field Agent, Annual Report, 410; Secretary, Report of, 446.
Padon, Ella Florence, A Bird Masque in Two Acts, 351.
Palmer, Dr. T. S., Reviews by, 46, 156, 214, 280.
Pangburn, Dwight B. and Clifford H., Christmas Census, 17.
Parker, Emelin Know, Starlings at Carlisle, Pa., 148.
Parker, J. Hollowell, The Starling in Baltimore, 91.
Pattee, Bertha Traer, Secretary, Report of, 444.
Patteson, S. Louise, Mockingbird in Cleveland, 141.
Pearce, Richard M., and William Pepper, Christmas Census, 23.
Pearson, T. Gilbert, Reviews by, 45; The English Sparrow, 60; Editorials by, 64, 116, 176, 232, 294, 368; Annual Report, 379; The Sage Grouse, 112; The Phœbe, 228; Pileated Woodpecker, 364; Photographs by, 398, 401, 422.
Pepper, William, see Pearce, Richard M.
Perkins, Dr. Anne E., see Gray, Dr. Earle V.
Peters, James L., see Kittredge, J., Jr., 15.
Pettee, L. B., A Bird on the Head, 266.
Phillips, Charles L., Christmas Census, 14.
Pierce, Nettie Sellinger, Christmas Census, 20.
Pike, Mrs. Granville R., Field Agent, Annual Report, 428; Photograph by, 430.
Pinkham, Roger D., An Albino Crow, 109.
Pittman, H. and E., Photographs by, 263, 319, 332.
Pittman, H. H., The American Crossbill, 332.
Plimpton, G. E., T. F. Plimpton, Thomas Wood, and Edward H. Perkins, Christmas Census, 13.
Potter, Julian K., Christmas Census, 20; Philadelphia Region, 152, 210, 276, 338.
Potter, L. H., Christmas Census, 13.
Potter, Mabel L., and Frances Congdon, Christmas Census, 14.
Powers, Arthur G., Florida Gallinule in Connecticut in April, 206.
Pratt, Helen S., see Bicknell, Mrs. F. T.
Preble, E. A., see Fisher, A. K.
Pumyea, D. W., see Nelson, Mr. and Mrs.

Raker, Mary E., Helen D. Tonseth, and Margarethe E. Wolle, Christmas Census, 37.
Raymond, Mrs. C. E., see Craigmile, Esther.
Reading, Gertrude, Secretary, Report of, 448.
Reuter, Raymond, Horned Larks at Rochester, 205.
Rice, Ward J., Christmas Census, 31.
Richards, G. T., The Black-capped Chickadee, 288.
Ringwalt, A. R., see Stockbridge, Chas. A.
Roads, Letha E., Christmas Census, 31.
Robbins, C. A. and Frank, Christmas Census, 15.
Robbins, R. E., Is the Cape May Warbler Increasing in Numbers?, 93.
Roehner, Theodore, Christmas Census, 18.
Rogers, Charles H., Christmas Census, 19; Bird-Lore's Seventeenth Christmas Census, 11; Eighteenth, 317; New York City Region, 152, 209, 276, 338.
Rogers, Volney, see Fordyce, George L.
Ross, Dr. and Mrs. Lucretius H., Christmas Census, 13; Warbler Notes from Bennington, Vt., 203; Vermont Notes, 205.
Ruegg-Button, Mrs. Lily, Christmas Census, 34.
Russell, John W., Christmas Census, 15.

Sadler, Nettie M., and Emilie Goulding, Christmas Census, 20.
Sage, Mary S., Field Agent, Annual Report, 427.
Sanford, James M., see Hannum, W. E.
Saunders, Aretas A., Christmas Census, 16.
Saunders, W. E., see McIlwraith Ornithological Club.
Savage, L. F., see McConnell, Thos. L.
Sawyer, E. J., Colored plates by, facing 172, 228.
Schaefer, Oscar F., Christmas Census, 36.
Schafer, J. J., Christmas Census, 30.
Schmidt, Ed., see Egan, Scoutmaster John.
Schoonhaven, George, see Walsh, Lester
Schwerdtfeger, F., A Wren's Nest inside a Hornets' Nest, 143.
Scott, Hazel and Foster H., Christmas Census, 31.
Scott, Ruth H., The Story of 'Beauty,' Our Tame Oriole, 221.
Sedwick, James, and Reginald Packard, Christmas Census, 30.
Sellers, Helen M., A Bird Exhibit, 335.
Shaw, Bertha, see Williams, Ruth Myhan.
Shaw, H. S., Jr., An Unexpected Visitor, 88.
Shaw, J. E. Norton, and William B. Sherman, Christmas Census, 14.
Sherman, Minette, Chronicles of a Hummingbird Family, 200.
Sherman, William B., see Shaw, J. E. Norton.
Shields, Mabel Agnes, see Howe, Inez Addie, 13.
Shirling, A. E., Christmas Census, 35; Kansas City Region, 154; Summer Birds of Swope Park, 273.
Shoemaker, Clarence R., see Moore, Mrs. Edgar W.
Shove, Ellen M., Evening Grosbeaks in Fall River, Mass., 42.
Simonds, Susie L., Christmas Census, 33.
Simpson, Eugene, Assistant Secretary, Report of, 447.
Slate, John B., Christmas Census, 34.
Smith, E. E., Christmas Census, 31.
Smith, E. E., and Frank Bruen, Christmas Census, 16.
Smith, Mrs. Edith H., A Practical Solution of the Sparrow Problem, 43.
Smith, Miriam, An Unusual Experience, 170.
Smith, Wilbur F., see Hall, James, 17; More Alien Depredation, 69; Notes from Southern Connecticut, 89; An Experience with an American Bittern, 264; Photographs by, 438, 439.
Speck, Frank G., Bird Gardening on Cape Ann, 132.
Squires, Walter A., see Hansen, Harold E.
St. John, Edward P., Christmas Census, 17.
Stalker, Alex., Christmas Census, 36; Snowy Owls in Idaho, 206.
Stewart, Ruth and Louis, and Fay and Fern Wells, Christmas Census, 37.
Stockbridge, Chas. A., and A. R. Ringwalt Christmas Census, 30.
Stone, C. F., Photograph by, 44.
Stone, Dr. Witmer, Field Agent, Annual Report, 432.
Stoner, Dayton, Cardinal Capturing a Cicada, 337.
Strong, W. D., Tom McCamant, and W. L. Brewster, Jr., Christmas Census, 37.

Digitized by Google

Sullivan, Richard H., The Purple Martin at Wichita, Kan., 83.
Swope, Eugene, Field Agent, Annual Report, 411; Photograph of, 413.

Taylor, Alex. R., and May E. Carr, Christmas Census, 27.
Taylor, W. S., and W. H. Warren, Christmas Census, 35.
Terry, F. D., see Dean, J.
Thomas, C. R., see Hansen, Harold E.
Thompson, Alonzo, A Community of Albino Robins, 71.
Thomson, Ethan W., Evening Grosbeaks at Cadillac, Mich., 337.
Thornber, Harriet B., Secretary, Report of, 436.
Tichenor, Martha K., Christmas Census, 28.
Timmons, Raymond, see McConnell, Harry B.
Tindall, Charles, see Hoffman, Ralph.
Tonseth Helen D., see Raker, Mary E.
Towne, Dr. S. R., see Greenleaf, Miles.
Townsend, Manley B., see Nature Club, 13.
Townsend, Manley B., An Evening Grosbeak Summers in New Hampshire, 204; Nesting Habits of the Cliff Swallow, 252; Annual Report, 455.
Tullsen, Mr. and Mrs. H., Christmas Census, 36.
Turner, Blanche A., A Wren's Nesting-place, 94.
Tyler, Winsor M., M.D., Boston Region, 151, 275, 338.

Upton, Lucy, The Skylark at Home, 108; Chimney Swifts Gathered for the Fall Migration, 293.

Vibert, C. W., Christmas Census, 17.
Vibert, C. W., and G. T. Griswold, Notes from Southern Connecticut, 89.
Vinal, William Gould, The Black-crowned Night Heron, 163.

Wagner, Ralph E., A School-Sustained Bird Reservation, 135.
Waite, Emily S. M., Photograph by, 171.
Wallace, Harriet E., Evening Grosbeak in Pennsylvania, 43.
Walsh, Lester, and George Schoonhaven, Christmas Census, 20.
Walter, Alice Hall, Editorials by, 49, 99, 158, 216, 282, 346.
Wanless, Harold R., Christmas Census, 22.
Warner, Mr. and Mrs. Willis H., see Fordyce, George L.
Warren, Edward R., President, Report of, 437.
Warren, W. H., see Taylor, W. S.
Watson, C. G., see McIlwraith Ornithological Club.
Way, W. Scott, Secretary, Report of, 443.
Weaver, Sarah Waldran, The White-breasted Nuthatch and the Food-Counter, 55; My Real Estate Business, 109; My First Trip to a Real Bird-haven, 168.
Weisgerber, H. W., Christmas Census, 32.
Wells, Fay and Fern, see Stewart, Ruth and Louis.
Welty, Dr. Emma J., Secretary, Report of, 460.
Wetmore, Alex., see Fisher, A. K.
Wetter, Albert, Christmas Census, 33.
White, Bertha E., Secretary, Report of, 461.
Whitney, T. H., Red-bellied Woodpecker in Iowa, 206.
Wilcox, Alice W., Bird-Protection in the War Countries, 150.
Wiley, Farida, Mrs. G. Clyde Fisher, and Ruth Anna Fisher, Christmas Census, 19.
Williams, Belle, Christmas Census, 27.
Williams, Mrs. A. N., Ruth Myhan, Jessie Nicol, Mrs. M. R. Freshwater, Bertha Shaw, Arthur Moore, and Florence L. Gregory, Christmas Census, 33.
Williams, R. S., The Evening Grosbeak in New York City, 42.
Willy, W, M., see Over, W. H.
Wilson Etta S., Christmas Census, 30.
Winsor, Paul, Jr., see Eaton, Warren F., 15.
Wolle, Margarethe E., see Raker. Mary E.
Wood, Sheridan F., Christmas Census, 32.
Wood, Theresa, The Goldfinch, 267.
Worley, John, see McConnell, Harry B., Christmas Census, 31.
Wright, Horace M., Christmas Census, 13.
Wyman, L. E., see Bicknell, Mrs. F. T.

Young, J. P., Christmas Census, 25.
Young, John P. and Chas. V. P., Christmas Census, 24.

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INDEX TO CONTENTS

Advisory Committees, National, 295.
Advisory Council, BIRD-LORE's, 40.
Albinism, 71, 109.
American Ornithologists' Union, The, Thirty-fifth Annual Meeting of, 342.
Amston Experiment Station, The, 118, 423.
Arizona, 36, 436.
Audubon Pocket Bird Collection, noticed, 45.
Audubon Societies, Annual Report of the National Association of, 377; Reports of State, 436.
Auk, The, reviewed, 97, 213, 279, 343.

Baldpate, 154.
Ball's 'A Year with the Birds,' reviewed, 45.
Bergtold's 'A Study of the Incubation Periods of Birds: What Determines Their Lengths,' reviewed, 278.
Bird Calendar, figured, 473.
Bird Census, BIRD-LORE'S Seventeenth, 11; Eighteenth, 317.
Bird Clubs, 68, 176, 241, 379, 382.
Bird Enemies, 174.
Bird Houses, figured, 53, 69, 90, 91, 138, 147, 236, 458; 109, 146, 148.
Bird Life, Effect of War on, 232.
Bird Migration, 151, 209, 272, 275, 293, 294, 338.
Bird Protection, 72, 116, 123, 135, 150, 182, 234, 237, 242, 295.
Bird Refuges, 117, 135.
Bird Study, 55, 56, 58, 163, 282.
Bird's Bath, figured, 68, 142, 145, 207, 439; 141, 144.
Birds' Feathers, 216, 372; Exportation of, 295; Importation of, 178.
Birds' Songs, 160, 161, 162, 169, 172, 204, 206, 271, 274, 289.
Bittern, American, 264; figured, 265; Least, figured facing, 127.
Blackbird, Brewer's 341; Red-winged, 134, 144, 152, 153, 154; Rusty, 152, 153, 154, 209, 210; Thick-billed Red-winged, 154.
Bluebird, 94, 134, 141, 144, 152, 153, 341; figured, 138.
Bobolink, 134, 338.
Bob-white, 124, 276.
Bowdish, Beecher S., Photograph of, 457.
Brooks, Major Allan, Photograph of, 3.
Brown, Julian, Photograph of, 401.
Bufflehead, 211.
Bunting, Indigo, 210, 211; Painted, 205; Snow, 144.

California, 37, 38, 436.
Canvasback, 154.
Cardinal, 94, 149, 152, 271, 337.
Catbird, 133, 144.
Cats, 110, 132, 178.
Chat, Yellow-breasted, 211.
Chickadee, Acadian, 43, 90; figured, 44, 309; Black-cap, 152, 288, 338; Brown-cap, 11, 151, 152; Hudsonian, 11; Hudsonian Brown-cap, 11; Labrador Brown-cap, 11.
Colorado, 36, 305, 340, 437.
Condor, 5; Trap for, figured, 6; Wing of, figured, 7.
Condor, The, reviewed, 46, 156, 214, 280, 344.
Connecticut, 16, 17, 89, 204, 206, 265, 437.
Conservation Comm.ssion, New York State, 304.
Coot, 154.
Cormorant, Double-crested, 211.
Council, Advisory, see Advisory Council.
Cowbird, 144, 153.
Crandall's 'Pets: Their History and Care', reviewed, 213.
Creeper, Brown, 152.
Crossbill, Red, 11, 152, 153, 332, 338; figured, 332; White-winged. 11, 152, 153, 204, 338.
Crow, 153, 154; Albino, 109.
Cuckoo, Black-billed, 211; Yellow-billed, 211.

Davis's Bird Poems,' reviewed, 155.
Diatryma, The Giant Bird, 193; figured, 194, 195.
District of Columbia, 440.
Dove, Mourning, 153, 154, 341.
Duck, Baldpate, 154; Black, 154, 210; Blue-winged Teal, 154; Bufflehead, 211; Gadwall, 154; Golden-eye, 211; Greater Scaup, 154; Lesser Scaup, 154; Mallard, 276; Pintail, 154, 276; Ring-necked, 211; Wood, 141, 143.
DuPont, General Coleman, Photograph of, 378.

Eagle, Golden, 341.
Egret, American, figured, 250; 251, 277.
Egrets, Protection in Venezuela of, 295.
Eider, King, 89.

Feeding Birds, 8, 43, 54, 55, 124, 158, 269, 303, 374; figured, 260; An effective device for, 8.
Field Agents, Reports of, 407.
Finch, Purple, 93, 339.
Finley, Phoebe Katherine, Photograph of, 418.
Finley, William L., 302; Photograph of, 416.
Finley's 'Birds of the Campus,' reviewed, 279.
Flicker, Northern, 154.
Florida, 28, 29, 123, 442.
Flycatcher, Acadian, 339; Ash-throated, figured. 140; Crested, 210; Least, 277, 338; Yellow-bellied, 211.
Forest Fires, Loss of Bird-Life in, 71.
Forbush, Edward Howe, Photograph of, 408.
Forbush's 'Food Plants to Attract Birds and Protect Fruit,' noticed, 97; 'Ninth Annual Report of the State Ornithologist of Massachusetts,' reviewed, 155; 'The Natural Enemies of Birds,' reviewed, 96.

Gadwall, 154.
Gallinule. Florida, 206.
Georgia, 28, 29, 372.
Gnatcatcher, Blue-gray, 153, 210.
Golden-eye, 211.
Goldfinch, 170, 267, 340.
Goose, Canada, 143, 153, 154; figured. 406; White-fronted, 154.
Gorst, Charles Crawford, Photograph of, 434.
Goshawk, 11, 152, 154.
Grackle, Albino Bronzed, 208; Bronzed, 153, 154. 341; figured, 263. Purple, 143, 153, 277, 340; Rusty, 144.
Grebe, Holbœll's, 89, 152; Horned, 152; Pied-billed, 154.

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Grosbeak, Black-headed, 341; Evening, 11, 42, 43, 47, 90, 148, 149, 151, 152, 153, 204, 209, 210, 310; figured, 85, 310, 311, 312, 313, 337; Pine, 11, 43, 151, 152; Rose-breasted, 210, 211, 268, 277.
Grouse, Sage, figured, facing 112.
Gull, Bonaparte's, 89; Great Black-backed, 143; Herring, 210, 339; Laughing, 89, 211, 338; Ring-billed, 89, 211.

Hardenberg's 'Bird Playmates,' reviewed, 155.
Hawk, Pigeon, 143; Red-tailed, figured, 319.
Hen, Heath, 407.
Heron, Black-crowned Night, 135, 163, 197; Nest and young figured, 164; Great Blue, 73, 152, 153, 209, 277; figured, 74, 75, 76; Nest figured, 77; Little Blue, 211, 276, 277, 339.
Higgins, Joy Montgomery, Photograph of, 342.
Horton, Charles B., Photograph of, 376.
Hummingbird, Costa's, 200; Ruby-throated, 202, 211, 266, 276.

Idaho, 206.
Illinois, 30, 43, 44, 242.
Indiana, 30, 31, 446, 501.
Ingersoll's 'An Index to Bird-Lore,' reviewed, 96
Iowa, 33, 34, 206, 271.

Jay, Blue, 154, 209, 336; figured, 249.
Job, Herbert K., Photograph of, 422.
Junco, Slate-colored, 209, 338.

Kansas, 83.
Kentucky, 30, 447.
Killdeer, 89, 153, 154, 265.
Kingbird, 210; Arkansas, 341; Cassin's, 341.
Kingfisher, 153, 170; Belted, 12, 154.
Kinglet, Golden-crowned, 210; Ruby-crowned, 153, 209, 210, 339.
Kuser's 'The Way to Study Birds,' reviewed, 278.

Lark, Horned, 152, 205; Prairie Horned, 92; figured, 318.
Legislation, 72, 116, 178, 294, 372, 395, 407.
Louisiana, 117; Water-fowl in, 117.

Maine, 414.
Mallard, 276.
Martin, 53; Eastern Purple, 262; Gray-breasted, figured, facing 243; Purple, 83, 133, 153, 212, 262, 277, 315, 339; figured, facing 243; Western Purple, 262.
Maryland, 92.
Massachusetts, 13, 14, 15, 42, 93, 203, 275, 338, 410, 447.
McMahon, Walt F., 123.
Meadowlark, 154; figured, 10; Western, 274.
Merganser, Hooded, 143, 154; Red-breasted, 154.
Michigan, 33, 337, 448.
Migration, see Bird Migration.
Migratory Bird Law, see Legislation.
Minnesota, 33.
Missouri, 34, 273.
Mockingbird, 90, 110, 141, 149, 154, 270; figured, 144, 269.
Montana, 36.
Munger. Mrs. Edith C., Photograph of, 449.

Nature Study Review, noticed, 156
Nebraska, 34, 302, 450.
Nesting Habits of Swallows, 252, 257.
New Hampshire, 12, 81, 204, 455.
New Jersey, 20, 21, 22, 93, 149, 456.
New York, 17, 18, 19, 20, 276, 338.
Nighthawk, 211, 341.
North Carolina, 26, 27, 458.
Nuthatch, Red-breasted, 12, 338.

Ohio, 31, 32, 33, 124, 141, 242, 340, 411, 459.
Ontario, 12, 93.
Oregon, 37, 460.
Oriole, Baltimore, 133, 134, 149, 276; Bullock's, 340; Orchard, 339.
Ovenbird, 209, 212, 338, 339.
Owl, Barn, 275; Voice of the, 275; Barred, 266; Long-eared, 88; Screech, figured, 88; Short-eared, 154; Snowy, 206; figured, facing 185.

Pearson's 'The Bird Study Book,' reviewed, 155.
Pellett's 'Our Back-Door Neighbors, reviewed, 343.
Pellets, Owl, 266.
Pennsylvania, 22, 23, 24, 32, 43, 148, 205, 276, 338.
Petrel, Wilson's, 89.
Pewee, Wood, 210, 341; Nest and young, figured, 199.
Phœbe 152, 153, 154, 228; figured, facing 229.
Pintail, 154.
Pipit, 144.
Plover, Black-bellied, 338; Piping, 339; Semi-palmated, 340.
Pullen's 'Some Bird Friends,' noticed, 97.

Quail, California, figured, 427; Scaled, figured, 426.

Rail, Virginia, 243; figured, 244, 246, 247, 248; Nest and eggs, figured, 245.
Redpoll, 11, 151, 152.
Redstart, 81, 134, 339.
Refuges, Bird, see Bird Refuges.
Reservation, Bird, 117, 135.
Rhode Island, 15, 94, 148, 241, 461.
Robbins, Miss Leona, Death of, 123.
Robin, 65, 92, 127, 152, 153, 154, 209, 259, 276, 336, 341; figured, 127, 128, 129, 131, 259, 437; Albino, 71, 208; Killing of, 238.

Sage, Mary S., Photograph of, 429.
Sandpiper, Red-backed, 211; Semipalmated, 185, 340; figured, 188, 189, 190, 191; Nest and eggs, figured, 185, 187; Stilt, 338; Western, 338; White-rumped, 210.
Sapsucker, Yellow-bellied, 209, 210.
Scaup, Greater, 154; Lesser, 154.
Schantz, O. M., Photograph of, 445.
Scoter, White-winged, 143.
Scudder's 'Conservation of our Wild Birds, reviewed, 95.
Season, The, 151, 209, 275, 338.
Shoveler, 154.
Shrike, Loggerhead, 339; Northern, 11, 152, 154.
Siskin, Pine, 11, 151, 152, 153, 209, 338, 340.
Skylark, 108.
Snipe, Wilson's, 154.
Song Birds for Food, Killing of, 303.
Sora, 211.
South Carolina, 27, 28, 432.
Sparrow, Chipping, 133, 134, 154, 209, 276, 338, 341; English, see Sparrow, House; Field, 154, 209, 276; Fox, 152, 153, 154, 209; Gambel's, 154; Harris's, 154; Henslow's, 153, 276; House, 43, 60, 146, 147, 153, 276; figured, facing 60; Lark, 92; Leconte's, 154; Savannah, 209; Song, 133, 152, 154, 276; Swamp, 154, 211; Tree, 154; figured, 318, 341; Vesper, 154; White-crowned, 154, 210, 211; White-throated, 154, 172; 205, 209, 338, figured, facing 172.

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Starling, European, 91, 148, 277.
Swallow, 94; Albino Barn, 208; Bank, 211, 326, 331; figured, facing 305; Barn, 209, 210; figured, facing 243; 253, 258, 262; Cliff, 252, 258, 320, 330; figured, facing 305; Nests figured, 254; Eastern Cliff, 320; Lesser Cliff, 320; Mexican Cliff, 320; Rough-winged, 328, 331, 339; figured, facing 305; Tree, 132, 209, 212, 258, 322, 331; figured, facing 305; Violet-Green, 325, 330; figured, facing 305.
Swan, Whistling, 153.
Swift, Black, 341; Chimney, 133, 209, 293, 338, 340.

Tanager, Scarlet, 210, 276.
Teal, Blue-winged, 154.
Tennessee, 29, 372, 441.
Tern, Black, 210, 211; Caspian, 211, 340; Common, 211; Least, 409.
Texas, 35, 36.
Thorburn's 'British Birds,' reviewed, 95.
Thrasher, Bendire's, 39; Brown, 133, 144, 145; figured, 146; California, figured, facing 1; 39; figured, 170; Crissal, figured, facing 1; 39; Desert, 39; Leconte's, figured, facing 1; 39.
Thrush, Gray-cheeked, 277; Hermit, 144, 154, 338, 339; Varied, 273; Wood, 210, 276.
Towhee, 154, 276; figured, 212, 270.
Townsend, Manley B., Photograph of, 455.
Trafton's 'Bird Friends,' reviewed, 45.

Vermont, 13, 203, 295.
Vireo, Blue-headed, 210; Plumbeous, 341; Red-eyed, 210, 276; Warbling, 206, 211, 341; Yellow-throated, 210, 212, 276.
Virginia, 25, 26, 291.
Vulture, Black, 143; Turkey, 143, 153, 154, 341.

Wallace Evans Game Farm, The, 370.
Warbler, Bay-breasted, 204, 209, 210, 277, 338; Black and White, 338; Blackburnian, 210, 277; Black-poll, 209, 210, 277, 338; Black-throated Green, 277, 339; Blue-winged, 211; Canadian, 205, 210, 277, 339; Cape May, 93, 203, 209, 210, 264, 338; Chestnut-sided, 134, 277, 339; Golden-winged, 210; Lawrence's, 90; Magnolia 210, 277; Mourning, 211, 277; Myrtle, 209, 338; Nashville, 276; Parula, 209; Pine, 209, 276; Prothonotary, 211; Tennessee, 204, 205, 209, 210, 276, 277, 338; Wilson's, 204; Yellow, 133, 134, 276, 341; Yellow Palm, 209; Yellow-throated, 150.
Washington, 37, 92, 273, 274 428.
Water-Fowl, Breeding of Wild, 118.
Water-Thrush, Louisiana 153; Northern, 211, 277.
Waxwing, Bohemian, 92, 153, 154; figured, 305, 306, 307, 308; Cedar, 92, 133, 134, 142, 209, 277; figured, 142.
Way, W. Scott, Photograph of, 443.
Wayne's 'A List of Avian Species for Which the Type Locality Is South Carolina,' reviewed, 343.
Wellesley Bird-Box, The, 90.
West Virginia, 26, 92, 461.
Whip-poor-will, 211.
Winnetaska Bird Charts, The, noticed, 280.
Winter Feeding Poster, A, noticed, 46.
Wisconsin, 33.
Wren, Alaska, figured, facing 73; 87; Aleutian, 87; Bewick's, figured, facing 73; 86; Carolina, 152; House, figured, facing 73; 86, 94, 143, nest figured, 143; 264, 276; Long-billed Marsh, figured, facing 73; 87, 276; Marsh, 339; Short-billed Marsh, figured, facing 73; 87; Western House, 340; Winter, 87, 154; figured, facing 73.
Woodcock, 153, 276.
Woodpecker, Downy, figured, 341; Northern Pileated, 211; Pileated, 364; figured, facing 364; Red-bellied, 206; Red-headed, 143.

Yellow-legs, Greater, 211.
Yellow-throat, Maryland, 133, 134; Northern, 339.

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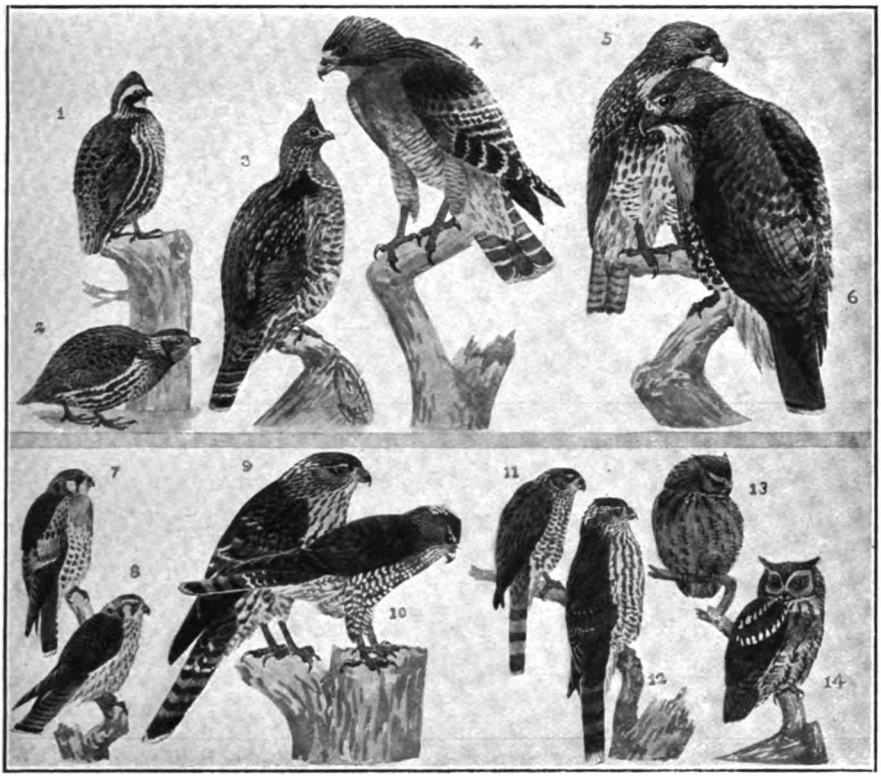

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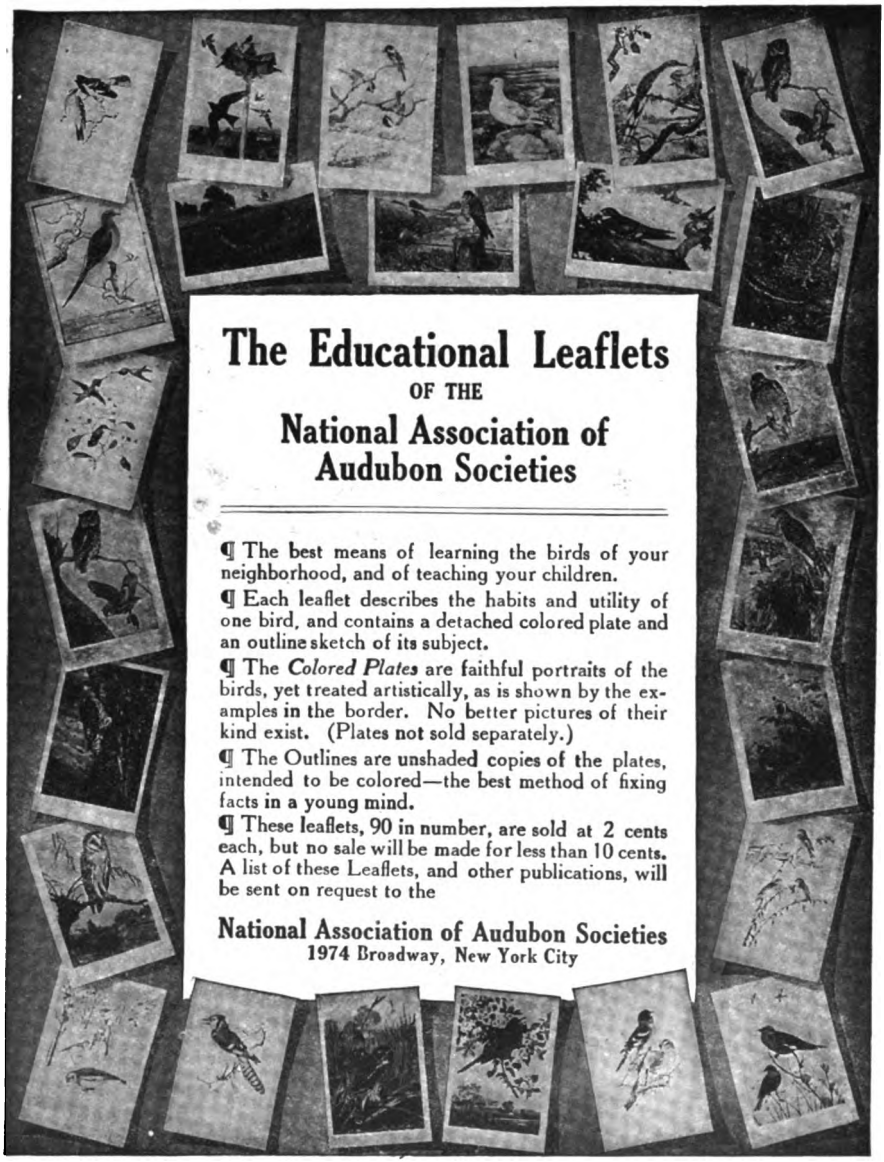

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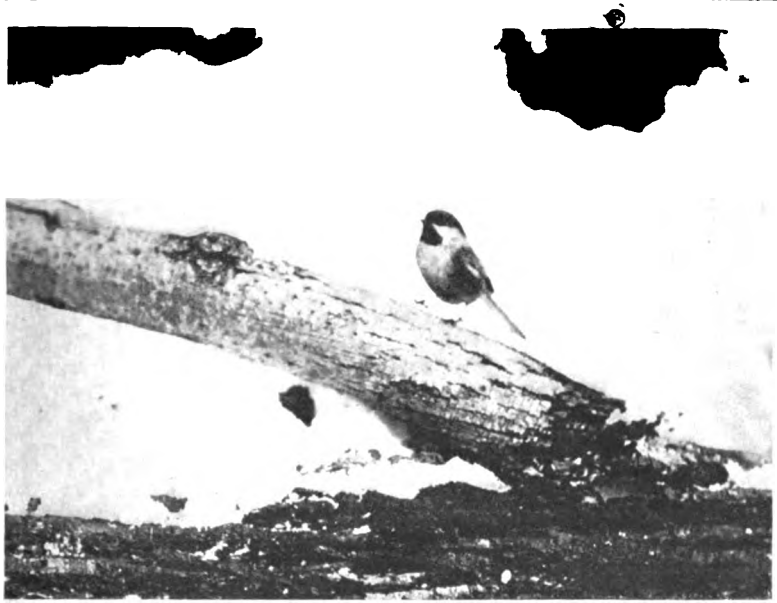

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January-February, 1917

CONTENTS

GENERAL ARTICLES PAGE

FRONTISPIECE IN COLOR—CRISSAL, CALIFORNIA AND LECONTE'S THRASHERS..... *Louis Agassiz Fuertes*..

BIRDS IN THE WAR-ZONE..... *Major Allan Brooks*.. 1

A CONDOR'S QUILL. Illustrated..... *Frank M. Chapman*.. 5

AN EFFECTIVE FEEDING DEVICE..... *John C. Lee*.. 8

MEADOWLARK. Photograph..... *Arthur A. Allen*.. 10

BIRD-LORE'S SEVENTEENTH CHRISTMAS CENSUS..... 11

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS. Forty-second Paper..... *Frank M. Chapman*.. 39

NOTES FROM FIELD AND STUDY.....
(Postponed to next issue, to make room for Christmas Census.)

WINTER NOTES..... 42
EVENING GROSBEAK IN PITTSFIELD, MASS., *Charlotte M. Barrows;* EVENING GROSBEAKS IN FALL RIVER, MASS., *Ellen M Shove;* THE EVENING GROSBEAK IN NEW YORK CITY, *R. S. Williams;* EVENING GROSBEAK IN PENNSYLVANIA, *Harriet E. Wallace;* PINE GROSBEAK IN ILLINOIS, *Mrs. Robert Lathrop;* A PRACTICAL SOLUTION OF THE SPARROW PROBLEM, *Mrs. Edith H. Smith;* ACADIAN CHICKADEE AT BRANCHPORT, N. Y., *Clarence S. Stone.*

BOOK NEWS AND REVIEWS..... 45
TRAFTON'S 'BIRD FRIENDS;' ALICE E. BALL'S 'A YEAR WITH THE BIRDS;' AUDUBON POCKET BIRD COLLECTION; ORNITHOLOGICAL MAGAZINES; A WINTER FEEDING POSTER.

EDITORIAL..... 47

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT..... 48
ONE WAY TO BEGIN THE NEW YEAR; FOR TEACHERS AND PUPILS; FOR AND FROM ADULT AND YOUNG OBSERVERS.

EDUCATIONAL LEAFLET No. 90. THE ENGLISH SPARROW. With Colored Plate by Bruce Horsfall..... *T. Gilbert Pearson*.. 60

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT..... 64
MOTION-PICTURES OF WILD BIRD-LIFE NOW AVAILABLE; THE EDUCATION OF A ROBIN; NEW MEMBERS AND CONTRIBUTORS; NOTES ON AUDUBON WORK.

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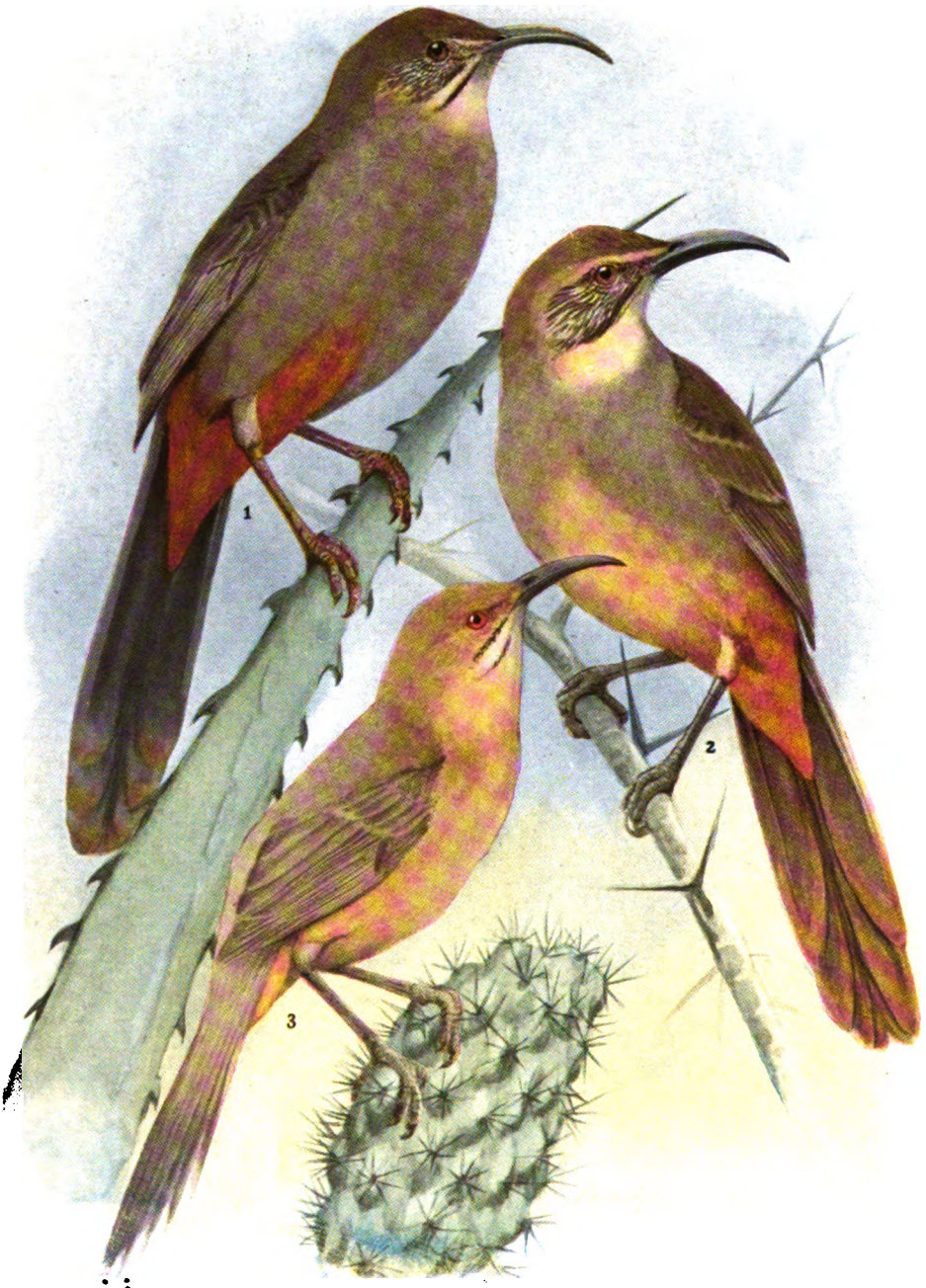

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A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XIX JANUARY—FEBRUARY, 1917 No. 1

Birds in the War-Zone

By MAJOR ALLAN BROOKS

A FEW notes on the effect of the present unnatural conditions on the bird-life of the war-zone in Flanders may be of interest to the readers of BIRD-LORE.

These conditions may be summarized briefly as follows:

1. Complete cessation of all hunting.
2. Increase of natural enemies, especially rats.
3. Heavy gun-fire.
4. Aëroplanes in large numbers.

An army order, early in the war, prohibited all hunting and shooting in the war-zone during the duration of the war.

This is rigidly enforced, and violations are rare. Personally, I have only once seen a bird of any kind shot here, which will indicate the immunity birds enjoy in this respect.

A large increase of birds, especially game birds, should be the result, but the reverse seems to be the case.

Whether this is due to an increase of natural enemies such as Crows, Magpies, weasels, and rats, I cannot say. All of these seem to have increased, especially the last.

This increase is not due to the immense amount of carrion, as I have never seen a Crow or Magpie indulging in a carrion diet out here. The wastage of food and grain accounts for the increase of rats, and the large numbers of stoats and weasels seen in the trenches may be a concomitant of this increase.

Cats also abound, but seem to confine their hunting almost exclusively to mice.

Game birds—Pheasants and Gray Partridges—are scarce, as a rule; by far the greater number can be seen in the immediate vicinity of the firing line. Wood-pigeons and Turtle-doves are common everywhere.

Small birds (including Thrushes, Blackbirds, and Larks, which are treated

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as game in France) are fairly common, but nothing approaching their abundance in England.

The effect of cannon-fire on birds is amazing. Almost without exception they absolutely disregard it. Even easily disturbed birds, like Crows and Wood-pigeons, are quite indifferent. My first experience of a heavy cannonade was in the early spring of last year (1915). The Blackbirds were all singing in the trees that lined the Yser Canal when on a sudden hundreds of guns of every calibre burst into a terrific and continuous cannonade; the enemy answered, and shells tore through the trees for hour after hour.

The effect was absolutely stunning to us humans, and when after three hours there was a sudden and complete cessation, the first thing that one's reeling senses realized was that the Blackbirds were still serenely fluting away—I don't think they had ever ceased.

Another time I was listening to the rich chucklings and gurglings of a Nightingale—the first of the season—and had located the songster with my glass, when the morning calm was shattered by a burst of rifle-fire close by; the retiring and elusive bird paid no attention, nor did he seek a lower or less conspicuous perch.

The only exception I have noticed out here to this general disregard (natural or acquired?) of noise, was in the case of one species, the Green Sandpiper, the Old World congener of our Solitary Sandpiper.

Twice I have seen this bird, and each time in a highly nervous state from shell-fire.

One of these instances afforded me some amusement at a time when a diversion was welcome. We were enduring nine hours of heavy hostile shelling with very inadequate shelter. As I lay behind a breastwork of sandbags, I watched the antics of a Green Sandpiper who was trying to get his breakfast in the water-filled shell-holes close by. Every time he settled, a big high explosive shell would burst nearby with a deafening crash and a geyser of black loam, and away would go the poor bird to circle in the blue for perhaps ten minutes, and then pitch down in front of me again, to repeat the same performance as another shell would land near him almost immediately.

Meanwhile an unruffled Cuckoo called continuously in some nearby pollard willows, and Larks (Crested Larks, very much like Sky-larks) rose one after the other, sometimes from the close vicinity of a bursting shell, singing serenely as if there was nothing to mar a perfect day.

My friend, M'C. de B. Green, who is driving an ambulance for the French in the Vosges, tells me the same indifference to shell-fire exists in the birds of that region, and with a corresponding scarcity of game. Wild boar however are apparently on the increase.

He also made the discovery of a new enemy to bird-life, although he had suspected its existence for some years past. This is the large slug of these parts, which destroys a large proportion of the eggs of ground and low-nesting small

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MAJOR ALLAN BROOKS

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birds. It took him some time to get sufficient evidence, but it is pretty nearly conclusive. Of six Nightingales' nests he had under observation, only one escaped the slugs, and this was on account of its unusually high position.

While living on Queen Charlotte Island, B. C., some years ago, he suspected the large slug of those parts of similar depredations. This would indicate how much we have to learn in our efforts to protect birds.

Few people in America realize what a very small proportion of the destruction of bird-life—especially small-bird-life—is due to human agency, and how futile is the effort which is solely directed against the small boy, the sportsman, and the collector, as the only enemies of birds. One has to go to England, with its teeming wealth of bird-life, to see what intelligent preservation and protection can really accomplish.

A feature that strikes one over here, both in France and England, is the immense amount of cover for birds, and also the quantity of the food-supply that is afforded by the different wild fruits and berries. Just now every hedge is glistening with loads of blackberries, and all through the winter the hollies and hawthorns afford a plentiful food-supply to many fruit-eating species.

The winter Thrushes—Field-fares and Redwings—are coming south now in large flocks. The first Field-fares arrived on September 18, 1916, just ten days after the last Swift had left.

A few Swallows and Martins stay until October 20, much later than they would do with equal weather conditions in America.

The subject of migrations recalls an incident of last April. While following the course of a brisk little engagement between six or seven aëroplanes, my glass suddenly encountered a flight of six white Storks, which were caught between the opposing 'planes,' and it was wonderful to see the spurt of speed the great ungainly birds put on, but the aircraft seemed to pass them easily. Usually birds pay no attention to aircraft, possibly familiarity may have induced this condition.

One species that may have been driven away by the heavy gun-fire is the Lapwing. This Plover is very abundant in England now, and almost absent from this region where it should be common.

Flanders, Oct. 29, 1916.

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A Condor's Quill

By FRANK M. CHAPMAN

WHEN I see a woman wearing a Condor's quill, I wonder if she ever thinks of the bird it once helped to soar far above the Andes through the dome of the sky. And I wonder, too, what unfortunate chain of circumstances has brought this noble plume from the top of a mountain to the side of a bonnet! I shall rarely, if ever, know whether the broad pinion raises the mind that lies so near (and yet alas! so far!) to it to flights in the realm of fancy; but I have lately learned how the majestic bird that bore it was sacrificed to the demands of a fashion which threatens its kind with extermination.

It was in Mendoza, Argentina, that on a recent journey to South America I met a man who, by profession, is a hunter of Condors. We have all heard of elephant hunters, seal hunters and bear hunters, we know only too well the work of the plume-hunter, and I once met a man who was a hunter of iguanas, but never had I supposed that so useful and inoffensive a creature as the Condor would become some man's special quarry. Its flesh is not edible, for it is one of nature's scavengers and feeds upon carrion; its plumage is neither bright in color nor dainty in form; but fashion has set a price upon its great wing- and tail-feathers, and not even the remote cañons and great altitudes of the mountains in which it lives can give it sanctuary.

For years, this Mendoza hunter has relentlessly pursued the Condor in the Argentine Andes. Some he has shot, more he has trapped, and others he has bought. The total number of these magnificent birds for whose destruction he is responsible he told me, with the matter of fact air of one giving crop statistics, is 16,000!

As a result of this one man's persecution, the Condor is now a comparatively rare bird throughout an area over two thousand miles in length, and it was admitted that further killing would practically exterminate it in western Argentina.

Only the wing- and tail-quills have a commercial value, and consequently these alone are saved. They number usually eighty-four, and for these eighty-four feathers, the equivalent of one Condor, the price paid prior to the war, was twenty dollars. All shipments were made to dealers in Paris. The present price is ten dollars, a sum which we may be thankful is too low to tempt our Mendoza collector. With a fine show of feeling and an evidently vague conception of the ethics involved, he exclaimed dramatically: "I refuse to exterminate such a wonderful bird for so small a sum!"

So here are the two ends of the chain which is dragging the poor Condor to its doom—Miss Blank of the Center of Civilization and the Hunter of the Heart of the Andes. Who is to blame? We all know Miss Blank. She may be just as tender-hearted as she is innocent of intentional wrong-doing; quite proba-

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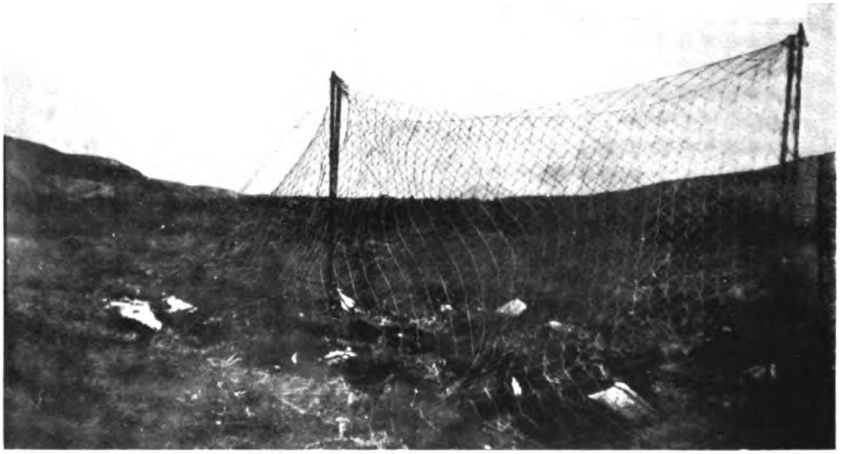
bly she has accepted her milliner's verdict that the quill she is wearing came from a barn-yard fowl. Certainly, if you were to accuse her of promoting the extinction of the Condor, she would question your sanity. Blissful ignorance best describes her mental condition, so far as Condors are concerned; but how about our Andean hunter? Does he show no regret for the destruction he has wrought? If he does, it is largely tempered by the reward his activity has brought him. His is not an environment designed to arouse an esthetic appreciation of the Condor's flight, or to impress him with its economic value. To his mind a living Condor is an asset to be realized upon only by death. I rather



A CONDOR TRAP IN THE ARGENTINE ANDES
There were thirty-seven Condors in the trap when the photograph was made
Photographed by Pernando Porta.

suspect that his refusal to kill the birds for half the price he had been accustomed to receive was more a matter of business than of sentiment, and that when the price reaches its former level he will resume the chase. There is neither law nor public opinion to say him nay, and why should we expect this one man to differ from his fellows?

Between innocence and ignorance, then, it will go hard with the Condor unless some one comes to its rescue. Here it is that educated and organized bird protectors come to the fore. Possibly they can exert small influence in the Heart of the Andes, and by moral suasion alone they have not been completely successful in the Center of Civilization! But they have secured the passage, as well as enforcement, of laws the effects of which reach to the furthermost

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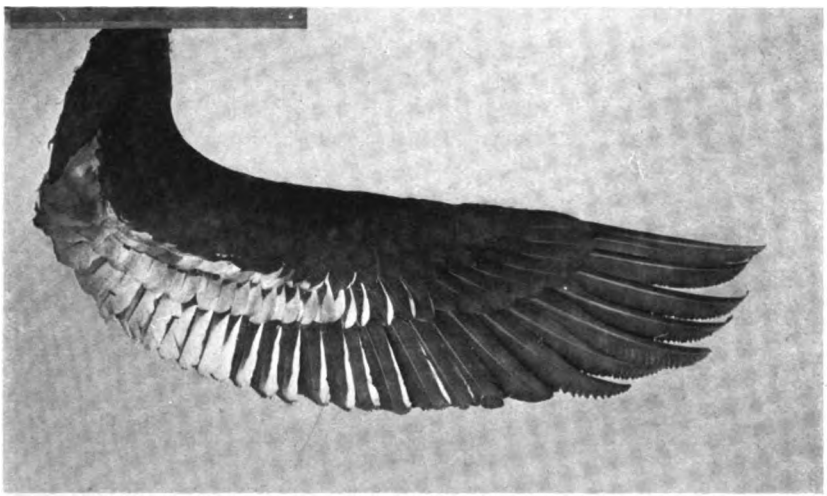
corners of the earth. While the existing stock lasts, Miss Blank may continue to wear her silvery pinion, but if she lives within the border of the United States let her cherish it carefully, for Federal law prohibits the importation of Condor's feathers, as well as those of other wild birds; and with the enactment of this statute no small part of the world's millinery mart was closed to Condor quills! Let us hope that other nations will follow this example.

Like most hunters whose pursuit of a certain animal leads them to a study of its habits, this Mendoza slayer of Condors had acquired much information concerning the object of his pursuit, and could relate many interesting reminiscences of the chase.

The latest South American guide book (and in most respects a very reliable book it is) tells us that the Condor attacks "pigs, sheep, children and rarely a



A CONDOR'S WING
This wing contains thirty-five large quills, and measures 4 feet, 8 inches, from base to tip

grown man," but our killer of thousands said that he had never known but one to 'show fight.' This was a trapped bird which, supposing it to be dead, he picked up by the neck, when the startled creature planted both feet on his breast and beat him vigorously with its wings. Doubtless the bird's chief object was escape, and if it had been given its freedom it no doubt would soon have been in full flight.

Although he had shot as many as one hundred and fourteen Condors in a single day, by far the larger number were netted. The net was baited with a dead horse which, it was explained, must have been in good condition, and from concealment in a nearby hole it was sprung with a wire. No big game hunter could have described a thrilling, dangerous moment in the chase more dramatically than did our Condor hunter tell of his excitement when the big birds

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gathered to the feast, and he waited for the last one to come within reach of the net.

The largest number ever taken at a single 'throw' he said was sixty-four. The net shown in the accompanying picture, which he presented to me, contained thirty-seven Condors, some of which can be dimly seen.

Condors, like their humble relatives the Turkey Buzzard and Black Vulture, evidently return to certain regularly frequented roosts for the night. Our hunter said that he counted eight hundred in a single roost; surely few gatherings of birds could be more impressive.

The Condor of the Andes, like the Condor of California, lays its single white egg in a cave or similar retreat, and builds no nest. The nesting season begins in September, or early spring.

After deducting a fair margin for expenses, shipping charges, etc., one might imagine that to sell 16,000 Condors for twenty dollars each would leave the hunter a comparatively wealthy man. But our Mendoza hunter has only a small share of the world's goods. Apparently the pursuit of the Condor is not designed to bring good fortune to those who engage in it. The proceeds of his hunting he invested in a powder mill which subsequently exploded! All that the world has to show, therefore, for the 16,000 Condors it has lost, is the few frayed quills which have not yet reached the ash-heap.

An Effective Feeding Device

By JOHN C. LEE, Wellesley, Mass.

THE accompanying sketch shows an inexpensive and simplified form of the well-known von Berlepsch food-bell, which can be readily made by anybody who can use a soldering iron and a few simple tools.

This device is particularly useful during the winter months for feeding the Chickadees and Nuthatches. It holds a lot of food and requires very little attention. The amount of food in the bottle can always be observed without taking it down. I have used this type of feeder with considerable success in wooded areas which are badly infested with gypsy moths. I find that the Chickadees attracted by the feeder are including in their diet a great many of the gypsy moth eggs.

For food I have been using a mixture of about 25 per cent hemp seed, 25 per cent sunflower seed, and 50 per cent cracked corn.

The essential portions of the feeder are lettered as follows:

A is what is known as a one-gallon amber packing-bottle, and can be had at almost any drug store for about ten cents.

B is a tube about five inches long which fits into the neck of the bottle. This can be readily made by bending a piece of thin galvanized sheet-iron about a round stick.

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C is a weather shield made by first cutting a disk of galvanized iron about ten inches in diameter and making a hole in the center for the tube B to pass through, then cutting a pie-shaped piece from the disk and drawing the edges together to form a cone. The edges should be soldered together and the shield soldered to the tube.

D is a 4-inch flower-pot saucer supported by three wire arms bent as indicated and soldered to the tube B. The wire arms are adjusted so that the end of the tube comes about ¼ inch from the bottom of the saucer.

E is a supporting wire which starts in a small loop near the top of the feeder on one side, passes down through the shield C around one side of the tube B, through the shield again, and up to a loop corresponding and the one on the opposite side. The holes where the wire passes through the shield should be closed with a little solder.

F is a wire band passing completely around the bottle and rather loosely fitted. It is looped around each end of the supporting wire E.

G is a wire supporting loop attached to each end of the wire E.

All of the wire used in making the device should be galvanized, and not smaller than No. 9 Brown and Sharpe gauge.

The feeder can be easily filled by inverting it so that the bottle is right side up, then slipping off the metal portions and pouring the food in through a funnel. The food should be free from bits of grass or other substances likely to obstruct the tube.

THE WELLESLEY BIRD-FEEDER

It is necessary to use an amber bottle in making the feeder rather than one of plain glass, for the reason that with plain glass the sun causes the moisture from the seeds to collect on the walls of the bottle. This moisture in time makes some of the seeds mold and clot together.

The feeders can, of course, be readily made by any tinsmith. As to their probable cost, I can only say that a tinsmith in this vicinity is making them in considerable quantities and selling them in lots of one dozen at 75 cents each, or a single one for $1.00.

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MEADOWLARK.—A MALE NEAR THE NEST
Photographed by Arthur A. Allen, Ithaca, N. Y.

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Bird-Lore's Seventeenth Christmas Census

THE Census for 1916 shows that this winter will go down into ornithological history as memorable for its great southward flight of the irregular winter visitors from the North. The most interesting of these is *Penthestes hudsonicus*, which has come further south and in greater numbers than it has ever before been known to do. So far, the 'farthest south' reported for it is the Moravian Cemetery at New Dorp, Staten Island, New York City, with others nearly as far south just north of Scotch Plains, near Plainfield, N. J. Till this season there had been no record of this species for the Hudson Valley below Poughkeepsie, for Long Island or for New Jersey. The name I have used for it throughout the Census is 'Hudsonian Chickadee,' as that is the accepted name of the species; the subspecies visiting us not having been fully determined. Individuals taken (some about Boston, one at New Dorp and one at Scotch Plains) are *not* Acadians, but belong to the subspecies* from the forests of Labrador recently described by Townsend. The use of 'Hudsonian Chickadee' for the species and also for one of its subspecies is confusing, and I take this occasion to propose that the species (*P. hudsonicus*) be called the 'Brown-cap Chickadee' (the extra -ped is superfluous; note 'Black-poll Warbler'), that *P. h. hudsonicus*, be called the 'Hudsonian Brown-cap Chickadee,' *P. h. nigricans* the 'Labrador Brown-cap Chickadee,' etc. Even though the specimens taken belong to the Labrador form, some Acadians may have come down, too, especially to localities near their summer home in the mountains of New England and New York, and northward. The plate labeled 'Acadian Chickadee' in BIRD-LORE for January-February, 1916, is much nearest *nigricans*, but the crown should be distinctly brownish. In the other subspecies the crown is a rather light brown, and there are other differences.

The writer knows that Pine Siskins were unusually abundant throughout northern New Hampshire and adjacent Maine last September, and Mr. Horace W. Wright told him that White-winged Crossbills were more common in the White Mountains then than in any of his previous thirty-four seasons' residence there, but Red Crossbills were scarce. The Siskins reached the vicinity of New York in October, and the Census shows them south to Georgia, Wisconsin, Missouri, Nebraska and Oregon. White-winged Crossbills have appeared in Virginia (near Washington), but seem to have skipped much territory, as the Census shows none between Poughkeepsie and southern New Jersey. The most generally abundant of the irregular species is the Redpoll, and its southernmost record (Currituck Sound) is the second for North Carolina. Evening Grosbeaks have again visited the East, and further south than ever (southern New Jersey), and Red Crossbills, Pine Grosbeaks and Northern Shrikes have appeared in small numbers. There has been a remarkable flight of American Goshawks, with individuals as far south as southern Pennsylvania and Arizona. Black-capped Chickadees, which seemed rather unusually abundant last season, are

P. h. nigricans; 'The Auk,' Volume XXXIII, 1916, page 74.

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even more so now, and Red-breasted Nuthatches are noticeably prevalent. On the other hand, Belted Kingfishers occur in many censuses from localities *north* of their regular winter range.

In the absence from the lists of the star censuses from southern California and Florida, first place goes to San Francisco with 65 species.*

Twenty-odd censuses were received too late for publication, and many others were discarded as seeming not at all fairly representative of the Christmas-time bird-life of the regions concerned, or for violating in some other and too flagrant way our carefully stated requirements. We shall cheerfully answer any inquiries from disappointed observers, and trust that such will resolve to do better next time, especially in the matter of staying long enough afield to make it worth while.—CHARLES H. ROGERS.

Arnprior, Ont.—Dec. 24; 9:30 A.M. to 4:30 P.M. Clear, becoming overcast about 3 P.M.; 12 in. of snow; calm in the morning, with an increasing east wind in the afternoon; temp. −1° to 10°. Canada Ruffed Grouse, 3; Goshawk(?), 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 1; Evening Grosbeak, 60+; Pine Grosbeak, 17; Pine Siskin, 11; Brown Creeper, 1; White-breasted Nuthatch, 3; Red-breasted Nuthatch, 13; Black-capped Chickadee, 23. Total, 12 species, 136 individuals. This is the first time since 1912, that Pine Grosbeaks have been here in any numbers. Evening Grosbeaks, however, have been here every year since 1912, but this year in greater numbers than ever before.—CHARLES MACNAMARA and LIGUORI GORMLEY.

London, Ont. (vicinity of).—8 to 11:30 A.M.; 2:30 to 5:30 P.M. Clear; 10 in. of snow; wind west, light; temp. 15° at start. The ground has been covered with snow for about two weeks, and the thermometer below zero several times. The following census is compiled from the lists of five parties (two on snowshoes) covering about 5 miles, roughly, in a zigzag line. American Merganser, 2; Marsh Hawk, 1; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 10; Blue Jay, 3; Crow, 312; Purple Finch, 15; Redpoll, 45; Snow Bunting, 100; Tree Sparrow, 22; Junco, 28; Song Sparrow, 2; Cardinal, 7 (the increasing number of Cardinals is very gratifying); Northern Shrike, 1 (first record for three years); Brown Creeper, 7; White-breasted Nuthatch, 10; Black-capped Chickadee, 78; Golden-crowned Kinglet, 10. Total, 19 species, 656 individuals.

The following have also been recorded recently: Snowy Owl (shot Dec. 16 and identified by Mr. A. A. Wood), Goshawk (shot Dec. 15 and identified by Mr. W. E. Saunders), and others.—MCILWRAITH ORNITHOLOGICAL CLUB, J. F. CALVERT, C. G. WATSON, W. E. SAUNDERS, J. C. HIGGINS, E. DALY and E. M. S. DALE.

Dover, N. H.—Dec. 26; 11 A.M. to 3 P.M. Clear; ground covered with snow and ice except a few bare spots; west breeze; temp. 20°. Canada Ruffed Grouse, 2; Hairy Woodpecker, 1; Flicker, 1; Crow, 4; Redpoll, 2; Tree Sparrow, 8; Black-capped Chickadee, 24; Golden-crowned Kinglet, 2; Robin, 1. Total, 9 species, 45 individuals.—PERLEY M. JENNESS.

East Jaffrey, N. H.—Dec. 26; 8:20 to 11:15 A.M.; 1:15 to 4 P.M. Clear; 10 in. of snow; wind west, brisk; temp. 9° to 19°. Canada Ruffed Grouse, 1; Hairy Woodpecker, 2; Downy Woodpecker, 3; Pine Grosbeak, 1; Redpoll, 7; Black-capped Chickadee, 48; Hudsonian Chickadee, 2. Total, 7 species, 64 individuals.—STUART T. DANFORTH.

Nashua, N. H.—Dec. 25; 9:40 A.M. to 12:30 P.M. Partly cloudy; 6 in. of snow; wind north, light; temp. 30°. Dec. 26; 10 A.M. to 3:30 P.M. Clear; 6 in. of snow; wind northwest, brisk; temp. 20°. Each observer covered different ground. Herring Gull, 2; American Merganser, 19; Great Blue Heron, 1; Canada Ruffed Grouse, 8; Ring-necked

*A list of 105 has since come from Los Angeles, but we fear this covers too much territory to be comparable with our other censuses; last year two of their points covered were 35 miles apart!

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Pheasant, 6; Downy Woodpecker, 1; Blue Jay, 28; Crow, 79; Redpoll, 20; Goldfinch, 6; Slate-colored Junco, 4; White-breasted Nuthatch, 8; Black-capped Chickadee, 49. Total, 13 species, 231 individuals.—NATURE CLUB, MANLEY B. TOWNSEND, leader.

Tilton, N. H.—Dec. 25; 10 A.M. to 5 P.M. Clear; a foot of snow; wind west, light to strong; temp. 20°. Party together in A.M., E. H. P. alone in P.M. American Merganser, 11; Canada Ruffed Grouse, 2; Downy Woodpecker, 1; White-winged Crossbill, 11; White-breasted Nuthatch, 2; Chickadee, 18.—G. E. PLIMPTON, T. F. PLIMPTON, THOMAS WOOD and EDWARD H. PERKINS.

Wilton, N. H.—Dec. 25; 8 A.M. to 12M. Clear; 3 to 6 in. of snow; no wind; temp. 26° to 32°. Canada Ruffed Grouse, 1; Downy Woodpecker, 1; Blue Jay, 6; Pine Grosbeak, 8; Pine Siskin, 7; Tree Sparrow, 5; Winter Wren, 1; White-breasted Nuthatch, 1; Chickadee, 10. Total, 9 species, 40 individuals.—GEORGE G. BLANCHARD.

Bennington, Vt.—Dec. 28; 10 to 11:30 A.M. Cloudy; 3 to 5 in. of snow; wind northwest, moderate; temp. 35° to 40°. Ruffed Grouse, 4; Saw-whet Owl, 1 (at 5 A.M); Screech Owl, 1(at 10 P.M.); Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 6; Crow, 1; Starling, 4; Pine Grosbeak, 17; Pine Siskin, 1; White-breasted Nuthatch, 1; Chickadee, 8. Total, 12 species, 46 individuals.—DR. and MRS. LUCRETIUS H. ROSS.

Clarendon, Vt.—Dec. 24; 10:20 A.M. to 4:30 P.M. Slightly overcast; 8 in. of snow; wind northeast, very light; temp. 16°. Ruffed Grouse, 8; Hairy Woodpecker, 4; Downy Woodpecker, 12; Blue Jay, 5; Pine Grosbeak, 19; White-winged Crossbill, 3; Redpoll, 16; Tree Sparrow, 2; White-breasted Nuthatch, 4; Chickadee, 22; Golden-crowned Kinglet, 1. Total, 11 species, 96 individuals.—L. H. POTTER.

St. Johnsbury, Vt.—Dec. 26; 8 to 11 A.M. Clear; 8 in. of snow; wind northwest; temp. 4°. Ruffed Grouse, 1; Hairy Woodpecker, 2; Blue Jay, 4; Evening Grosbeak, 7; Redpoll, 44; Goldfinch, 10; White-breasted Nuthatch, 2; Chickadee, 40. Total, 8 species, 110 individuals.—INEZ ADDIE HOWE and MABEL AGNES SHIELDS.

Woodstock, Vt.—Dec. 25; 8:30 A.M. to 4 P.M. Clear; 6 in. of snow; wind northwest, light; temp. 20°. Ruffed Grouse, 2; Great Horned Owl, 1; Northern Hairy Woodpecker, 2; Downy Woodpecker, 5; Blue Jay, 1; Evening Grosbeak, 3; Pine Grosbeak, 20; Red Crossbill, 4; White-winged Crossbill, 5; Redpoll, 38; White-throated Sparrow, 1; Tree Sparrow, 3; Junco, 1; Brown Creeper, 1; White-breasted Nuthatch, 8; Red-breasted Nuthatch, 2; Black-capped Chickadee, 15; Hudsonian Chickadee, 1; Golden-crowned Kinglet, 2. Total, 19 species, 115 individuals. The Evening Grosbeaks (1 bright male and 2 females) have been seen frequently in two large box elders on my lawn since Dec. 1. The single White-throated Sparrow, the Junco and the Hudsonian Chickadee were seen at Mr. Fred Dana's feeding-station, where they have been continually since the middle of November.—RICHARD M. MARBLE.

Boston, Mass. (Chestnut Hill Reservoir).—Dec. 18; 12:30 to 2 P.M. Fair; 6 in. of snow; wind west, light; temp. 27°. Herring Gull, 1; Merganser, 18; Mallard, 3; Black Duck, 133; Green-winged Teal, 2; Pintail, 1; Lesser Scaup, 1; Goldeneye, 2; Northern Flicker, 1; Blue Jay, 3; Crow, 3; Starling, 32; Redpoll, 9. Total, 13 species, 209 individuals.—HORACE W. WRIGHT.

Cambridge, Mass. (Waverley, Belmont, Fresh Pond and Charles River Basin).—Dec. 24; 8:15 A.M. to 4 P.M. Clear; 4 in. of snow; wind northwest, strong; temp. 34°. Black-backed Gull, 1; Herring Gull, 175; American Merganser, 20; Black Duck, 2; Red-shouldered Hawk, 1; Ring-necked Pheasant, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 5; American Crow, 51; Starling, 250; Purple Finch, 3; Redpoll, 27; Goldfinch, 5; Pine Siskin, 8; White-throated Sparrow, 2; Tree Sparrow, 3; Junco, 1; Song Sparrow, 3; Cedar Waxwing, 3; White-breasted Nuthatch, 1; Chickadee, 9; Hudsonian Chickadee, 1; Golden-crowned Kinglet, 19; Ruby-crowned Kinglet, 1. Total, 25 species, 596 individuals.—MYLES P. BAKER.

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Cohasset, Mass.—10 A.M. to 3 P.M. Clear; ground generally bare but some snow; wind northwest, brisk; temp. 22°. Black-backed Gull, 2; Herring Gull, 50; Red-breasted Merganser, 2; Ring-necked Pheasant, 1; Downy Woodpecker, 5; Northern Flicker, 12; Blue Jay, 3; Crow, 10; Baltimore Oriole, 1; Purple Finch, 20; Redpoll, 2; Goldfinch, 3; Pine Siskin, 35; Tree Sparrow, 10; Song Sparrow, 4; Slate-colored Junco, 25; Cedar Waxwing, 40; Northern Shrike, 1; Orange-crowned Warbler, 1; Myrtle Warbler, 50; Red-breasted Nuthatch, 1; Chickadee, 20; Hudsonian Chickadee, 4; Golden-crowned Kinglet, 1; Robin, 20. Total, 25 species, 323 individuals. The Oriole was feeding on the ground, on a small patch of salt marsh, within 20 feet of me part of the time, where today's high run of tide had flowed two hours before. It was able to fly perfectly. The marsh was bordered by cat-brier, cedars, sumac, bayberries, etc. The Orange-crowned Warbler was seen on Dec. 8 and 14 near the same place.—JOHN B. MAY, M.D.

Dighton, Mass.—8 A.M. to 12 M. Partly cloudy; snow in spots; wind southwest, medium; temp. 30°. Herring Gull, 35; American Merganser, 10; Goldeneye, 60; Ruffed Grouse, 1; Downy Woodpecker, 1; Northern Flicker, 10; Horned Lark, 4; Blue Jay, 8; Crow, 175; Cowbird, 2; Meadowlark, 30; Purple Finch, 1; Goldfinch, 110; Pine Siskin, 6; Tree Sparrow, 5; Slate-colored Junco, 20; Song Sparrow, 7; Myrtle Warbler, 60; Chickadee, 20; Robin, 2. Total, 20 species, 567 individuals.—CHARLES L. PHILLIPS.

Fairhaven, Mass.—Dec. 24; 10 A.M. to 2 P.M. Clear; ground bare; wind northwest, strong; temp. 32°. Herring Gull, 10; Downy Woodpecker, 2; Crow, 5; Blue Jay, 6; Meadowlark, 2; Song Sparrow, 2; White-throated Sparrow, 1; Purple Finch, 8; Brown Creeper, 2; Chickadee, 12; Golden-crowned Kinglet, 6; Robin, 40. Total, 12 species, 83 individuals.—MABEL L. POTTER and FRANCES CONGDON.

Holyoke, Mass. (vicinity of Mt. Tom Range).—Dec. 25; 8 A.M. to 1 P.M. Fair with cloud-flecked sky; wind west and northwest, comparatively still in A.M. and strong at noon; several in. of snow, drifted in places; temp. at start 25°, on return, 32°. Ruffed Grouse, 4; Cooper's Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Blue Jay, 4; American Crow, 8; Starling, 15; Redpoll, 3; Tree Sparrow, 1; Slate-colored Junco, 6; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 2; Black-capped Chickadee, 9; Golden-crowned Kinglet, 6. Total, 14 species, 63 individuals. Recently seen in vicinity: Evening Grosbeak, Pine Siskin, and Hudsonian Chickadee.—AARON C. BAGG.

Lynn, Mass.—Dec. 25; 8 A.M. to 2 P.M. Clear; 3 in. of snow; light northwesterly wind; temp. 30° to 40.° Herring Gull, 15; Ring-necked Pheasant, 1; Hairy Woodpecker, 1; Blue Jay, 4; Crow, 11; Goldfinch, 16; Tree Sparrow, 4; Junco, 7; Brown Creeper, 2; Red-breasted Nuthatch, 2; White-breasted Nuthatch, 11; Chickadee, 8; Golden-crowned Kinglet, 1. Total, 13 species, 73 individuals.—THOMAS J. CULLITON.

Mattapoisett, Mass.—Dec. 25; 8:30 A.M. to 12:30 P.M. Clear to cloudy; ground bare; wind northwest, strong and gusty; temp. 35°. Observers together. Grebe sp. 3; loon sp., 3; Black-backed Gull, 1; Herring Gull, 2; Merganser, 1; Old-squaw, 8; Scoter, 40; Surf Scoter, 8; Ruffed Grouse, 1; Flicker, 4; Blue Jay, 3; Crow, 3; Junco, 9; Song Sparrow, 2; Myrtle Warbler, 12; Chickadee, 4. Total, 16 species, 104 individuals.—J. E. NORTON SHAW and WILLIAM B. SHERMAN.

Provincetown, Truro, and Wellfleet, Mass.—From 1 P.M. Dec. 26 to 4 P.M. Dec. 28. Dec. 26, clear with high northwest wind; Dec. 27 and Dec. 28, intermittent rain and mist, wind southwest, moderate. Ground bare. Temp. 28° to 40°. Holbœll's Grebe, 1; Loon, 11; Red-throated Loon, 3; Black-backed Gull, 155; Glaucous Gull, 5; Iceland Gull, 1; Herring Gull, 850; Gannet, 2; Red-breasted Merganser, 29; Hooded Merganser, 1; Black Duck, 122; Goldeneye, 21; Old-squaw, 28; Eider, 13; Scoter, 5; White-winged Scoter, 2; Kingfisher, 2; Flicker, 9; Horned Lark, 257; Crow, 23; Starling, 7; Meadowlark, 6; Red Crossbill, 52; White-winged Crossbill, 2; Redpoll, 35; Pine Siskin, 2; Goldfinch, 12; Snow Bunting, 143; Ipswich Sparrow, 1; Tree Sparrow, 39; Song

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Sparrow, 5; Northern Shrike, 1; Myrtle Warbler, 80; Brown Creeper, 4; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 3; Chickadee, 52; Golden-crowned Kinglet, 21; Robin, 24. Total, 39 species, 2,031 individuals.—J. KITTREDGE, JR., JOSEPH A HAGAR, BARRON BRAINERD and JAMES L. PETERS.

Southampton, Mass.—9 A.M. to 12 M; 1 to 4 P.M. Clear; ground bare; wind light, northwest; temp. 25°. Ruffed Grouse, 1; Downy Woodpecker, 1; Blue Jay, 7; American Crow, 3; Starling, 2; Redpoll, 25; Pine Siskin, 4; Tree Sparrow, 2; Chickadee, 9. Total, 9 species, 54 individuals.—BESSIE M. GRAVES.

Wareham, Mass.—Dec. 24; sunrise to sunset. Fair; ground mostly bare; wind westerly, calm at first, light later; temp. 26°. Observers together except for about an hour. Horned Grebe, 1; Loon, 1; Herring Gull, 225; Red-breasted Merganser, 15; Black Duck, 14; American Goldeneye, 150; Old-squaw, 45; White-winged Scoter, 7; Surf Scoter, 1; Black-crowned Night Heron, 1; Bob-white, 6; Ring-necked Pheasant, 2; Cooper's Hawk, 1; Kingfisher, 2; Downy Woodpecker, 1; Northern Flicker, 5; Horned Lark, 1; Blue Jay, 14; Crow, 75; Starling, 24; Meadowlark, 1; Purple Finch, 2; Red Crossbill, 5; Redpoll, 1; Goldfinch, 32; Pine Siskin, 5; Tree Sparrow, 80; Field Sparrow, 1; Slate-colored Junco, 75; Song Sparrow, 13; Swamp Sparrow, 1; Myrtle Warbler, 28; Brown Creeper, 1; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 2; Chickadee, 110; Golden-crowned Kinglet, 14; Robin, 1. Total, 38 species, 965 individuals.—C. A. ROBBINS and FRANK ROBBINS.

Weston, Mass.—Dec. 26; 6:50 to 8:45 A.M.; 9:15 A.M. to 12:15 P.M.; occasionally during P.M. Clear, 4–8 in. of snow; wind northwest, strong; temp. 14° to 20.° Observers together during A.M. Ruffed Grouse, 2; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 1; Blue Jay, 4; Crow, 17; Pine Grosbeak, 12; Redpoll, 10; Goldfinch, 2; Tree Sparrow, 4; Junco, 20; Brown Creeper, 2; White-breasted Nuthatch, 2; Golden-crowned Kinglet, 6; Chickadee, 19; Robin, 1. Total, 17 species, 105 individuals.—WARREN F. EATON, PAUL WINSOR, JR., and CHARLES BREWER, JR.

Williamstown, Mass.—Dec. 26; 1 to 4 P.M. Clear; 3 to 6 in. of snow; wind northwest; temp. 10°. Hairy Woodpecker, 1; Downy Woodpecker, 1; Crow, 2; Starling, 1 (singing); Tree Sparrow, 5; Goldfinch, 3; White-breasted Nuthatch, 2; Chickadee, 8. Total, 8 species, 23 individuals.—W. J. CARTWRIGHT.

Pawtucket to Seekonk, R. I.—8 A.M. to 2 P.M. Clear to cloudy; 4 in. of old snow, in places ground bare; wind west, light; temp. 28° to 35°. Herring Gull, 5; Sparrow Hawk, 1; Snow Owl, 1; Downy Woodpecker, 2; Flicker, 1; Horned Lark, 100; Blue Jay, 17; Crow, 24; Starling, 250; Meadowlark, 1; Purple Finch, 1; Redpoll, 24; Goldfinch, 7; Pine Siskin, 6; Tree Sparrow, 15; Junco, 21; Song Sparrow, 2; Swamp Sparrow, 2; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 12; Golden-crowned Kinglet, 11. Total, 22 species, 502 individuals. During the past week: Snow Bunting, Evening Grosbeak, Red Crossbill and others. The winter birds are unusually common this winter in our section.—EARL MARSH, and D. W. MARSH.

Providence, R. I.—Dec. 24; 11 A.M. to 3:30 P.M. Partly cloudy; snow on ground; wind southwest, light; temp. 55°. Flicker, 4; Blue Jay, 3; Crow, 15; Tree Sparrow, 10; Junco, 15; Song Sparrow, 5; Myrtle Warbler, 3; Chickadee, 25. Total, 8 species, 80 individuals.—JOHN W. RUSSELL.

Warwick, R. I.—Dec. 24; 9:45 A.M. to 2:45 P.M. Clear followed by cloudy; 3 in. of snow; wind northwest, light; temp. 30°. Herring Gull, 43; Scaup, 6,000; Bob-white, 15; Sparrow Hawk, 1; English Pheasant, 2; Downy Woodpecker, 2; Flicker, 14; Blue Jay, 11; American Crow, 22; Starling, 309; Meadowlark, 3; Purple Finch, 6; Goldfinch, 3; Pine Siskin, 20; Tree Sparrow, 28; Junco, 15; Song Sparrow, 5; Myrtle Warbler, 66; White-breasted Nuthatch, 1; Chickadee, 31; Golden-crowned Kinglet, 3; Bluebird, 3. Total, 22 species, 6,603 individuals.—HARRY S. HATHAWAY.

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Bristol, Conn.—Dec. 25; 7 A.M. to 4:30 P.M. Cloudy, snow flurry forenoon, becoming fair in afternoon; wind brisk, increasing to a gale 11 A.M. to 3:30 P.M., diminishing to fresh at sundown; 4 to 6 in. of old snow; temp. 32°. Sparrow Hawk, 1; Downy Woodpecker, 2; Blue Jay, 25; Crow, 18; Starling, 60; Pine Grosbeak (?), young males or females, 2 (in flight overhead, size, general coloration and calls, made us feel quite certain); Redpoll, 179+; Goldfinch, 20; Tree Sparrow, 38; Song Sparrow, 2; Winter Wren, 1; White-breasted Nuthatch, 3; Chickadee, 23; Golden-crowned Kinglet, 1. Total, 14 species, 375 individuals.—E. E. SMITH and FRANK BRUEN.

Clinton and Grove Beach, Conn.—Dec. 25; 9:30 A.M. to 12:50 P.M.; 2:30 to 4:15 P.M. Partly cloudy to clear; ground bare; wind northwest, heavy; temp. 36°. Horned Grebe, 1; Loon, 1; Red-throated Loon, 2; Herring Gull, 63; Red-breasted Merganser, 1; Black Duck, 4; Scaup, 122; Goldeneye, 7; Bufflehead, 17; Old-squaw, 2; Scoter, 2; White-winged Scoter, 13; Surf Scoter, 32; Bob-white, 12; Cooper's Hawk, 1; Screech Owl, 1 (at dusk); Downy Woodpecker, 1; Horned Lark, 3; Blue Jay, 1; Crow, 5; Starling, 23; Red Crossbill, 1; Purple Finch, 2; Pine Siskin, 3; Goldfinch, 5; Tree Sparrow, 9; White-throated Sparrow, 4; Junco, 19; Song Sparrow, 1; Cardinal, 1 (7 A.M); Myrtle Warbler, 3; Chickadee, 6; Golden-crowned Kinglet, 3. Total, 33 species, 361 individuals. The Cardinal was an adult female, seen from a distance of 50 feet, through seven-diameter prism-binoculars. The bird was seen again, in the same place, on the morning of Dec. 26. On that day, in the vicinity of Guilford, Conn., at least 100 Redpolls.—ARETAS A. SAUNDERS.

Fairfield, Conn. (Birdcraft Sanctuary, 10 acres).—Dec. 25; sunrise to sunset. Partly cloudy; temp. 38°. Herring Gull, 15; Downy Woodpecker, 3; Blue Jay, 5; Crow, 7; Starling, flock of 250; Redpoll, 18; Purple Finch, 10; Goldfinch, 15; White-throated Sparrow, 3; Tree Sparrow, 12; Junco, 30; Song Sparrow, 6; Myrtle Warbler, 10; White-breasted Nuthatch, 2; Chickadee, 5; Robin, 1. Total, 16 species, 398 individuals.—FRANK NOVAK, Warden.

Hartford, Conn.—Dec. 25; 9 A.M. to 1 P.M. Clear; ground snow-covered; wind west, strong; temp. 35°. Downy Woodpecker, 3; Blue Jay, 9; Crow, 6; Starling, 26; Redpoll, 46; Goldfinch, 14; Tree Sparrow, 2; Slate-colored Junco, 71; White-breasted Nuthatch, 4; Chickadee, 18. Total, 10 species, 199 individuals.—CLIFFORD M. CASE.

Hartford, Conn.—Dec. 24; 10:30 A.M to 5 P.M. Clear A.M., cloudy P.M.; 6 in. of snow and crust; light northwest wind; temp. 30° to 35°. Walk of 15 miles or more covering a considerable variety of territory. Screech Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 8; Northern Pileated Woodpecker, 2; Blue Jay, 34; Crow, 150+; Starling, 50+; Redpoll, flock of 50+; Pine Siskin, flock of 75+; Tree Sparrow, 2; Junco, 45; Brown Creeper, 8; White-breasted Nuthatch, 11; Black-capped Chickadee, 18; Hudsonian Chickadee, 7+; Golden-crowned Kinglet, 9. Total, 16 species, 472+ individuals. The Pileated Woodpecker and the Hudsonian Chickadee have been observed by the writer every week for over a month; both are seldom seen here.—GEO. T. GRISWOLD.

West Hartford, Conn.—Dec. 24; 7:30 to 10:30 A.M. and 1:30 to 5 P.M. Fair; ground partly covered with snow and ice; temp. 28°. Ruffed Grouse, 1; Sparrow Hawk, 1; Screech Owl, 2; Hairy Woodpecker, 1; Downy Woodpecker, 3; Northern Pileated Woodpecker, 2; Blue Jay, 1; Crow, 200; Starling, 91; Purple Finch, 3; Goldfinch, 6; Tree Sparrow, 10; Song Sparrow, 2; nuthatch sp., 4; Chickadee, 15; Golden-crowned Kinglet, 3. Total, 16 species, 345 individuals. Hudsonian Chickadees have been in Reservoir Park for over a month; as high a number as 40 were seen in one day. Three Pine Grosbeaks were seen on Saturday, a number of flocks of Redpolls have been seen in West Hartford and in Hartford the past week, and A. C. Hall reported to me this morning that last Friday he saw a Phœbe. The identification was positive; the bird was with a flock of Juncos, and Mr. Hall had a good chance to observe it, saw it wag its tail and observed its markings.—EDWIN H. MUNGER.

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New Haven, Conn. (Edgewood Park and Mitchell's Hill).—Dec. 25; 10 A.M. to 12:30 P.M. Partly cloudy; wind west, brisk; ground partly snow-covered; temp. 39°. Herring Gull, 1; Sparrow Hawk, 2; Red-tailed Hawk, 1; Kingfisher, 1; Downy Woodpecker, 2; Blue Jay, 13; Crow, 18; Starling, 97; Goldfinch, 2; Junco, 56; White-throated Sparrow, 1; Tree Sparrow, 3; Song Sparrow, 5; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 6; Golden-crowned Kinglet, 3; Robin, 3. Total, 18 species, 166 individuals.—DWIGHT B. and CLIFFORD H. PANGBURN.

New London, Conn.—Dec. 27; 10:15 A.M. to 2:30 P.M. Rainy; ground nearly bare; wind east, light; temp. 30° at start. Herring Gull, 6; Black Duck, 10; Greater Scaup, 10; Goldeneye, 29; Bufflehead, 6; Bob-white, 1; Horned Lark, 25; Blue Jay, 7; Crow, 11; Starling, 60; Pine Grosbeak, 1; Goldfinch, 11; White-throated Sparrow, 1; Tree Sparrow, 19; Slate-colored Junco, 18; Song Sparrow, 2; Myrtle Warbler, 16; Brown Creeper, 1; Chickadee, 14. Total, 19 species, 248 individuals.—FRANCES M. GRAVES.

Norwalk, Conn.—Dec. 24; 9 A.M. to 4 P.M. Partly cloudy; temp. 30°; 12 miles. Red-breasted Merganser, 40; Black Duck, 200; Scaup, 200; American Goldeneye, 6; Old-squaw, 20; Herring Gull, 40; Red-shouldered Hawk, 1; Screech Owl, 1; Downy Woodpecker, 1; Flicker, 1; Horned Lark, 30; Blue Jay, 11; Crow, 24; Starling, 50; Meadowlark, 1; Purple Finch, 2; Goldfinch, 16; Pine Siskin, 50; White-throated Sparrow, 11; Song Sparrow, 16; Tree Sparrow, 15; Junco, 7; Towhee, 1; Cardinal, 1; Brown Thrasher, 1; Winter Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 7; Chickadee, 10; Golden-crowned Kinglet, 2. Total, 30 species, 767 individuals. Cardinal discovered by Mr. Geo. Ells in November and has lived in same place ever since; *seen daily*. Towhee and Thrasher found at edge of large swamp.—JAMES HALL and WILBUR F. SMITH.

South Windsor, Conn.—8 A.M. to 3 P.M. Clear; wind west, light; temp. 32°. Herring Gull, 1; American Merganser, 1; Sharp-shinned Hawk, 1; Goshawk, 1; Sparrow Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 8; Horned Lark, 20; Blue Jay, 8; Crow, 75; Starling, 20; Meadowlark, 6; Rusty Blackbird, 2; Purple Finch, 2; Goldfinch, 45; White-throated Sparrow, 2; Tree Sparrow, 200; Junco, 6; Song Sparrow, 35; Swamp Sparrow, 1; Brown Creeper, 2; White-breasted Nuthatch, 7; Chickadee, 50. Total, 24 species, about 500 individuals.—C. W. VIBERT.

Windsor, Conn.—7 A.M. to 4 P.M. Ground snow-covered; rain all day; light winds; temp. 35°. American Merganser, 1; Ruffed Grouse, 1; Rough-legged Hawk, 2; Barred Owl, 1; Screech Owl, 1; Kingfisher, 1; Hairy Woodpecker, 1; Downy Woodpecker, 5; Blue Jay, 6; Starling, 30; Crow, 565; Tree Sparrow, 73; Junco, 6; Brown Creeper, 4; White-breasted Nuthatch, 2; Black-capped Chickadee, 29; Golden-crowned Kinglet, 3. Total, 17 species, 731 individuals. Pileated Woodpecker, 1; Pine Grosbeak, 3; Redpoll, 6; Hudsonian Chickadee, 2, observed at West Hartford, Conn., within a week of Christmas.—EDWARD P. ST. JOHN.

Albany, N. Y. (just west of the city).—Dec. 24; 9:30 A.M. to 2:30 P.M. Partly cloudy; 2 to 3 in. of snow and ice; wind northwest, 5 miles per hour; temp. 28°. Sparrow Hawk, 1; Downy Woodpecker, 1; Crow, 1,000+; Starling, 100 (one flock, an unusual sight in this section); Redpoll, 50; Tree Sparrow, 41; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 28. Total, 9 species, 1,224+ individuals.—CLARENCE HOUGHTON.

Collins, N. Y. (Hospital grounds and Cattaraugus Indian Reservation).—Dec. 24; 12:30 to 1 and 2 to 5 P.M. Cloudy, dull, overcast; light southwest wind; 2 ft. of snow, mostly level; creek open; temp. 30°. Great Blue Heron, 1; Sharp-shinned Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Flicker, 1; Prairie Horned Lark, 6; Blue Jay, 1; American Crow, 3; Tree Sparrow, 15; Song Sparrow, 1; Cedar Waxwing, 2; Brown Creeper, 1; White-breasted Nuthatch, 3; Chickadee, 200. **Total, 15 species, 243 individuals.**—DRS. EARLE V. GRAY and ANNE E. PERKINS.

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Geneva, N. Y. (between Main St. and the Lake within the city limits).—Dec. 24; 9:30 A.M. to 1:30 P.M. Horned Grebe, 22; Herring Gull, 1; American Merganser, 2; Redhead, 800; Canvasback, 26; Greater Scaup, 600; Lesser Scaup, 35; American Golden-eye, 13; Barrow's Goldeneye, 1 male; Ruddy Duck, 1; Ring-necked Pheasant, 11; Hairy Woodpecker, 1; Downy Woodpecker, 5; Flicker, 1; Crow, 35; Goldfinch, 2; Tree Sparrow, 3; Junco, 2; Brown Creeper, 7; White-breasted Nuthatch, 11; Chickadee, 17; Hudsonian Chickadee, 2; Golden-crowned Kinglet, 9; Robin, 1. Total, 24 species, 1,608 individuals.—WILLIAM EDDY and E. H. EATON.

Hamburg, N. Y.—Dec. 24; 7:30 A.M. to 1:30 P.M. Partly cloudy; about 12 in. of snow; wind light, north; temp. 18°. Ruffed Grouse, 1; Cooper's Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 3; Crow, 32; Redpoll, 40; Tree Sparrow, 2; Brown Creeper, 2; White-breasted Nuthatch, 4; Chickadee, 16. Total, 11 species, 108 individuals. The Redpolls were first noted this fall on Nov. 30.—THOMAS L. BOURNE.

Hempstead, Nassau Co., L. I., N. Y.—Dec. 25; 9 A.M. to 5 P.M. Ideal in early morning, cold and windy by noon. The land was mostly woods, also some pine, two small swamps, and a small stretch of plain. Herring Gull, 7; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-shouldered Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 2; Horned Lark, 38; Blue Jay, 8; Crow, 156; Starling, 31; Goldfinch, 65+; Pine Siskin, 28; Tree Sparrow, 20; Slate-colored Junco, 41; Song Sparrow, 14; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 18; Golden-crowned Kinglet, 6. Total, 20 species, 442 individuals.—THEODORE ROEHNER.

Long Beach, Nassau Co., L. I., N. Y.—Dec. 21; 9:30 A.M. to 4:20 P.M. Rain before daylight on 6 to 8 in. of remaining snow, followed by thick fog, lifting transiently about noon; temp. 37° A.M. and P.M.; wind light, northerly; surface of ocean smooth over broad swells. Horned Grebe, 11; Loon, 1; Red-throated Loon, 3; Black-backed Gull, fewer than usual; Herring Gull, abundant; Red-breasted Merganser, several small flocks and one of perhaps 100; Black Duck, not many seen, doubtless because of the fog off shore; Scaup, several flocks, the largest estimated at 80; Old-squaw, not many, one company of 20; Surf Scoter, 2; American Scoter, 3; Sanderling, flock of 14; Crow, common; Starling, in the town and several flocks along shore; Meadowlark, flock 8 to 10; Horned Lark, numerous; Lapland Longspur, one with Horned Larks; Ipswich Sparrow, 4 together; Tree Sparrow, few; Junco, 1; Song Sparrow, 5 or 6 together; Fox Sparrow, 1; Myrtle Warbler, numerous. Total, 23 species, number of individuals impossible to specify.—E. P. BICKNELL.

Mastic, L. I., N. Y.—Dec. 24; 11 A.M. until dark. Clear; ground bare; marshes and most of bay frozen; wind west, light; temp. 25° to 30°. Black-backed Gull, 1; Herring Gull, 3; American Merganser, 1; Red-breasted Merganser, 2; Black Duck, 35; Redhead 3; Canvasback, 4; Scaup (? Greater, 6; ? Lesser, 35), 41; Goldeneye, 1,100; Bufflehead, 60; Great Blue Heron, 1; Marsh Hawk, 1; Red-tailed Hawk, 1; Great Horned Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Northern Flicker, 2; Blue Jay, 6; Crow, 25; Starling, 275; Meadowlark, 40; Goldfinch, 12; Tree Sparrow, 30; Junco, 7; Song Sparrow, 6; Myrtle Warbler, 250; Brown Creeper, 7; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 2; Chickadee, 16; Golden-crowned Kinglet, 32. Total, 31 species, 1,971 individuals.—J. T. NICHOLS and LUDLOW GRISCOM.

New York City (Bronx Park, Saw Mill Lane section and Clason Point). Train used between Saw Mill Lane and Clason Point).—Dec. 25; 9:50 A.M. to 2:30 P.M. Cloudy in A.M., clear in P.M.; 1 to 2 in. of snow in places; wind northwest, brisk; temp. 30° to 40°. Herring Gull, 625; Merganser, 30; Black Duck, 8; Canvasback, 1; Black-crowned Night Heron, 52; Cooper's Hawk, 2; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 12; Crow, 11; Starling, 84; Meadowlark, 1; Rusty Blackbird, 1; Goldfinch, 8; White-throated Sparrow, 8; Tree Sparrow, 27; Junco, 30; Song Sparrow, 12; Fox Sparrow, 3; Winter Wren, 1; Brown Creeper, 9;

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White-breasted Nuthatch, 9; Chickadee, 16; Golden-crowned Kinglet, 3; Robin, 3. Total, 27 species, 966 individuals. About 200 more ducks too far away for identification. —EDWARD G. and MR. and MRS. L. N. NICHOLS.

New York City (Kingsbridge, Jerome Reservoir, Van Cortlandt Park, Moshulu Parkway, Bronx Park, Pelham Park and City Island). Train between Bronx and Pelham Parks, rest of route on foot).—Dec. 23; 8:40 A.M. to 4:50 P.M. Clear; ground bare, some snow in shaded areas; wind west to southwest, brisk; temp. 27°. Herring Gull, 2,000; American Merganser, 16 (2 drakes); Scaup, 50; Black-crowned Night Heron, 45; Red-tailed Hawk, 5; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 3; Flicker, 1; Blue Jay, 3; Crow, 28; Starling, 290; Cowbird, 1 male; Red-winged Blackbird, 1 female; Meadowlark, 5; Goldfinch, 9; Pine Siskin, 29; White-throated Sparrow, 4; Tree Sparrow, 86; Junco, 29; Song Sparrow, 7; Brown Creeper, 3; White-breasted Nuthatch, 3; Black-capped Chickadee, 28. Total, 24 species, about 2,648 individuals.—GEORGE E. HIX, CLARK L. LEWIS and EDWARD G. NICHOLS.

New York City (Central Park).—Dec. 25; 9:30 A.M. to 12:45 P.M. Cloudy; ground partly snow-covered; wind southwest, brisk; temp. about 34°. Herring Gull, 500; Hairy Woodpecker, 1; Downy(?) Woodpecker, 1; Blue Jay, 1; American Crow, 1; Starling, 107; Junco, 2; American Goldfinch, 2; Red-breasted Nuthatch, 2; Black-capped Chickadee, 13; Robin, 1. Total, 10 species, about 631 individuals.—FARIDA A. WILEY, MRS. G. CLYDE FISHER and RUTH ANNA FISHER.

New York City (Staten Island: West New Brighton to Bulls Head to Great Kills via Richmond, to New Dorp to West New Brighton).—Dec. 25; 6:15 A.M. to 5:15 P.M. Cloudy at start, clearing; remains of old snow; wind westerly, fresh; temp. 28°, rising to above freezing. Holbœll's Grebe, 3; Black-backed Gull, 1; Herring Gull, 300; Mourning Dove, 4; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Long-eared Owl, 8; Short-eared Owl, 1; Screech Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 11; Northern Flicker, 1; Horned Lark, 6; Blue Jay, 13; American Crow, 75; Fish Crow, 2; Starling, 56; Cowbird, 2; Meadowlark, 31; Purple Finch, 4; Redpoll, 15; Goldfinch, 15; Pine Siskin, 30; Savannah Sparrow, 3; White-throated Sparrow, 3; Tree Sparrow, 32; Field Sparrow, 1 (seen; in song); Slate-colored Junco, 67; Song Sparrow, 20; Swamp Sparrow, 1; Fox Sparrow, 2; Cardinal, 3; Myrtle Warbler, 10; White-breasted Nuthatch, 7; Red-breasted Nuthatch, 2; Tufted Titmouse, 1; Black-capped Chickadee, 20; Hudsonian Chickadee, 2; Golden-crowned Kinglet, 5; Robin, 6. Total, 40 species, 774 individuals.—HAROLD K. DECKER.

New York City and Atlantic Ocean (from the Battery to Ambrose Lightship Bank and back).—Dec.23; 8 A.M. to 3:40 P.M. Fine; wind northwest, strong (gale of 84 miles and more per hour last evening); 30° at 1 P.M. Black-backed Gull, 7; Herring Gull, 1,200; Bonaparte's Gull, 450; White-winged Scoter, 8; Starling, 1. Total, 5 species, about 1,670 individuals.—CHARLES H. ROGERS.

Northport, L. I., N. Y. (Northport, Eaton Neck, Centerport).—Dec. 27; 8 A.M. to 4:30 P.M. Rain all day, freezing in the morning; ground and trees ice-covered; wind light; temp. 32°. Observers together. Horned Grebe, 16; Herring Gull, 73; Red-breasted Merganser, 14; American Goldeneye, 104; Bufflehead, 16; Old-squaw, 44; American Scoter, 13; White-winged Scoter, 33; Surf Scoter, 31; ducks sp., 200; Downy Woodpecker, 3; Blue Jay, 2; American Crow, 69; Starling, 2; Meadowlark, 5; Goldfinch, 2; Pine Siskin, 23; Tree Sparrow, 89; Junco, 31; Song Sparrow, 4; Myrtle Warbler, 24; Brown Creeper, 1; White-breasted Nuthatch, 1; Black-capped Chickadee, 5; Golden-crowned Kinglet, 2; Robin, 6. Total, 25 species, 813 individuals.—EDWARD FLEISCHER and HENRY L. OTTEN.

Poughkeepsie, N. Y. (Greenvale Farm and vicinity).—Dec. 23; 9 A.M. to 3:30 P.M. Sunny; 6 in. of crusty snow; wind southeast, brisk; temp. 30°. Cooper's Hawk, 1; Red-tailed Hawk, 3; Red-shouldered Hawk, 1; Broad-winged [?-Ed.] Hawk, 1; Sparrow Hawk.

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1; Hairy Woodpecker, 2; Downy Woodpecker, 4; Blue Jay, 7; Crow, 500+; Starling, 18; Purple Finch, 5; White-winged Crossbill, 1 male (12 seen recently); Redpoll, 15+; Goldfinch, 7; White-throated Sparrow, 1; Tree Sparrow, 8; Junco, 14; Song Sparrow, 2; Brown Creeper, 3; White-breasted Nuthatch, 11; Black-capped Chickadee, 20; Hudsonian Chickadee, 3; Golden-crowned Kinglet, 3; Hermit Thrush, 1. Total, 24 species, 632 individuals.—GEORGE W. GRAY.

Rhinebeck, N. Y.—8 A.M. to 12:15 P.M.; 2:45 P.M. to 3:30 P.M. Stormy to clear; ground snow-covered; wind southeast to north, strong; temp. 33°. Ring-necked Pheasant, 9; Gray Partridge, 7; Red-tailed Hawk, 3; Barred Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 9; Starling, 12 (sings); Blue Jay, 17; Crow, 20; Purple Finch, 12; Redpoll, 10; Snow Bunting, 6; Tree Sparrow, 20; Junco, 50; Vesper Sparrow, 1 (carefully identified); White-throated Sparrow, 2 (sings); Brown Creeper, 1; White-breasted Nuthatch, 17; Red-breasted Nuthatch, 2; Chickadee, 48 (whistles); Hudsonian Chickadee, 5. Total, 21 species, 256 individuals.—MAUNSELL S. CROSBY.

Rochester, N. Y. (Highland, Durand-Eastman Parks and vicinities).—Dec. 23; 7 A.M. to 5 P.M. Fair; 1 ft. of snow; wind west, brisk; temp. 20°. Herring Gull, 36; Pheasant, 8; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Crow, 20; Redpoll, 40; Tree Sparrow, 35; Slate-colored Junco, 1; Song Sparrow, 6; Cardinal, 1; Brown Creeper, 4; White-breasted Nuthatch, 5; Red-breasted Nuthatch, 2; Chickadee, 20. Total, 15 species, 186 individuals.—WM. L. G. EDSON and R. E. HORSEY.

Rochester, N. Y. (Maplewood Park and Riverside).—Dec. 24; 9:30 A.M. to 1 P.M. Cloudy; a foot of snow; wind southwest veering to southeast, light; temp. 25°. Ring-necked Pheasant, 1; Sharp-shinned Hawk, 1; Downy Woodpecker, 3; Crow, 7; Bronzed Grackle, 3; White-breasted Nuthatch, 5. Total, 6 species, 20 individuals.—NETTIE SELLINGER PIERCE.

Syracuse, N. Y. (north of city near the lake) same route as in past five years.—Dec. 24; 9:45 A.M. to 3:30 P.M. Six in. of snow, lake partially frozen; wind west, very light; temp. 26°. Herring Gull, 9; Black Duck, 4; American Goldeneye, 17; Sparrow Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 4; Crow, 25; Tree Sparrow, 18; Brown Creeper, 4; White-breasted Nuthatch, 4; Chickadee, 16. Total, 11 species, 105 individuals. Dec. 23: Snow Bunting, 75.—NETTIE M. SADLER and EMILIE GOULDING.

Camden, N. J., and vicinity.—Dec. 25; 9 to 10 A.M. and 12M. to 4:30 P.M. Overcast at start, clearing at noon; wind northwest; temp. 40°. Herring Gull, 9; Black-crowned Night Heron, 1; Mourning Dove, 1; Marsh Hawk, 1; Red-tailed Hawk, 5; Sparrow Hawk, 2; Long-eared Owl, 1; Barn Owl, 1; Downy Woodpecker, 3; Blue Jay, 1; Crow, 150; Starling, 300; Red-winged Blackbird, 5; Meadowlark, 5; Pine Siskin, 26; White-throated Sparrow, 10; Tree Sparrow, 32; Slate-colored Junco, 50; Song Sparrow, 10; Cardinal, 5; Evening Grosbeak, 6; Brown Creeper, 2; White-breasted Nuthatch, 2; Tufted Titmouse, 3; Chickadee, 3; Golden-crowned Kinglet, 4. Total, 26 species, 638 individuals. Evening Grosbeak note: Heard loud House Sparrow-like notes behind me. Turned and saw six rather large birds approaching. As they passed at the distance of 15 feet—sun at my back—noted heavy bills, yellow plumage and conspicuous white markings of the wings. Am sure the birds were Evening Grosbeaks.—JULIAN K. POTTER.

Englewood Region, N. J. (Leonia to Teaneck to Englewood; by car to Tenafly; to Alpine to Englewood Ferry).—Dec. 23; 9:30 A.M. to 4:30 P.M. Clear; windy; temp. 25°, Black-backed Gull, 2; Herring Gull, 50; Red-breasted [American?—Ed.] Merganser, 12; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Duck Hawk, 2; Barred Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Flicker, 1; Blue Jay, 12; American Crow, 12; Starling, common; Purple Finch, 2; Goldfinch, 50; White-throated Sparrow, 12; Tree Sparrow, 100; Junco, 50; Song Sparrow, 6; Fox Sparrow, 1; Cedar Waxwing, 3; Myrtle Warbler, 25; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 1; Black-

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capped Chickadee, 25; Hudsonian Chickadee, 1; Golden-crowned Kinglet, 2; Bluebird, 3. Total, 28 species, about 380 individuals+ Starlings.—LESTER WALSH and GEORGE SCHOONHAVEN.

Englewood Region, N. J. (Marshes, Phelps Estate, West Englewood).—Dec. 23; 8:30 A.M. to 2:30 P.M. Clear; ground partly covered with ice and snow, marshes and creek frozen; wind west, strong; temp. 25°. Observers together. Herring Gull, 10; Red-tailed Hawk, 2; Rough-legged Hawk, 1; Sparrow Hawk, 2; Downy Woodpecker, 6; Blue Jay, 5; American Crow, 17; Starling, 76; Meadowlark, 8 (flock); Goldfinch, 4; Pine Siskin, 12; White-throated Sparrow, 7; Tree Sparrow, 56; Slate-colored Junco, 52; Song Sparrow, 5; Myrtle Warbler, 5; Brown Creeper, 2; White-breasted Nuthatch, 4; Chickadee, 47; Golden-crowned Kinglet, 4. Total, 20 species, 325 individuals. (In the swampy woods south of the West Englewood station, I heard among the notes of a flock of Chickadees a call identical with that of the Hudsonian Chickadees observed by me recently on Staten Island. I was unable to locate the bird before it flew off and hesitate to record it definitely. I wish, however, to call attention to its probable presence. E. F.).—L. F. BOWDISH and EDWARD FLEISCHER.

Hackettstown, N. J.—Dec. 26; 7:50 A.M. to 12:20 P.M.; 1:15 to 4 P.M. Fair; ground mostly snow-covered; wind northeast, light; temp. 21°. English Pheasant, 6; Downy Woodpecker, 6; Blue Jay, 3; Crow, 7; Starling, 20; Purple Finch, 7; Goldfinch(?), 1; Tree Sparrow, 8; Junco, 38; Song Sparrow, 3; Winter Wren, 1; Brown Creeper, 3; White-breasted Nuthatch, 4; Chickadee, 17; Golden-crowned Kinglet, 2; Bluebird, 2. Total, 16 species, 128 individuals. Pine Siskins Nov. 19; Evening Grosbeaks Dec. 18.—MARY PIERSON ALLEN.

Moorestown, N. J.—Dec. 25; 7:45 A.M. to 12:45 P.M.; 4:15 to 5:30 P.M. Partly cloudy; chill; wind west, fresh; ground half snow-covered; temp. at start, 35°. G. H. H. was present only on the short walk in the afternoon with W. B. E. The longer walk was taken by the four other observers together. Herring Gull, 1; Turkey Vulture, 1; Marsh Hawk, 2; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Sparrow Hawk, 3; Downy Woodpecker, 8; Flicker, 4; Horned Lark, 50; Crow, 35; Starling, 58; Purple Finch, 3; Goldfinch, 24; White-throated Sparrow, 13; Tree Sparrow, 30; Junco, 72; Song Sparrow, 34; Cardinal, 5; Catbird, 1; Carolina Wren, 1; Winter Wren, 1; Brown Creeper, 2; Red-breasted Nuthatch, 1; Tufted Titmouse, 1; Robin, 1. Total, 25 species, 354 individuals.—ANNA A. MICKLE, ALICE C. DARNELL, M. ALBERT LINTON, GEORGE H. HALLETT, JR., and WILLIAM B. EVANS.

Moorestown, N. J.—Dec. 26; 6:43 A.M. to 5:57 P.M. Clear; ground half snow-covered; wind north-northwest, light; temp. at start, 22°. Great Blue Heron, 3; Turkey Vulture, 3; Red-tailed Hawk, 8; Red-shouldered Hawk, 2; Sparrow Hawk, 4; Kingfisher, 2; Hairy Woodpecker, 2; Downy Woodpecker, 13; Flicker, 9; Horned Lark, 110; Crow, 188; Starling, 144; Red-winged Blackbird, 1; Meadowlark, 5; Purple Finch, 3; White-winged Crossbill, 36; Goldfinch, 28; White-throated Sparrow, 20; Tree Sparrow, 147; Junco, 333; Song Sparrow, 83; Cardinal, 17; Carolina Wren, 2; Winter Wren, 3; Brown Creeper, 3; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 1; Tufted Titmouse, 2; Chickadee, 2; Bluebird, 3. Total, 30 species, 1,179 individuals. The five flocks of chattering Crossbills (and scattered individuals) noted flying in a southwesterly direction, between the hours of 7:50 A.M. and 3:30 P.M. were presumably of the same species as the three birds watched at close range.—WILLIAM B. EVANS and GEORGE H. HALLETT, JR.

Norristown, N. J.—Dec. 25; 8 A.M. to 12 M. Fair; ground snow-covered; wind southwest to northwest, strong; temp. 31° to 36°. Kingfisher, 1; Hairy Woodpecker, 1; Downy Woodpecker, 7; Blue Jay, 39; Crow, 30; Starling, 32; Purple Finch, 7; Goldfinch, 5; Redpoll, 12; White-throated Sparrow, 2; Tree Sparrow, 5; Junco, 56; Song Sparrow, 21; Brown Creeper, 1; White-breasted Nuthatch, 22; Tufted Titmouse, 3; Black-capped

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Chickadee, 52; Golden-crowned Kinglet, 12. Total, 18 species, 308 individuals.—R. C. CASKEY.

Mt. Holly, N. J.—Dec. 24; 8 A.M. to 4 P.M. Clear; no wind; about 3 in. of snow; temp. 22°. English Pheasant, 1; Turkey Vulture, 11; Sharp-shinned Hawk, 1; Broad-winged [?—Ed.] Hawk, 1; Rough-legged Hawk, 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Flicker, 1; Blue Jay, 32; Crow, 650; Starling, 6; Evening Grosbeak, 2; Goldfinch, 46; Pine Siskin, 3; White-throated Sparrow, 7; Tree Sparrow, 9; Field Sparrow, 4; Slate-colored Junco, 108; Song Sparrow, 5; Swamp Sparrow, 1; Cardinal, 7; Myrtle Warbler, 2; Carolina Wren, 1; Brown Creeper, 10; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 3; Tufted Titmouse, 13; Chickadee, 21; Golden-crowned Kinglet, 8. Total, 30 species, 960 individuals. Ten Red Crossbills seen Dec. 3, feeding on pine cones in our graveyard.—MR. and MRS. NELSON, and D. W. PUMYEA.

Plainfield, N. J. (to Washington Valley beyond Scotch Plains).—Dec. 25; 7 A.M. to 6 P.M. Partly cloudy; 4 in. of snow; temp. 35.5°. Ruffed Grouse, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Hairy Woodpecker, 2; Downy Woodpecker, 16; Blue Jay, 20; American Crow, 18; Starling, 75; Evening Grosbeak, 1 female; Purple Finch, 12 (flock); Redpoll, 120; Goldfinch, 60; White-throated Sparrow, 2; Tree Sparrow, 36; Junco, 32; Song Sparrow, 9; Swamp Sparrow, 1; Cardinal, 2 (a pair); Myrtle Warbler, 32; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 7; Tufted Titmouse, 4; Black-capped Chickadee, 22; Hudsonian Chickadee, 1; Golden-crowned Kinglet, 9; Robin, 4; Bluebird, 10. Total, 28 species, 502 individuals. Tracks of Ring-necked Pheasants were seen in two or three places and a Great Horned Owl which had evidently but recently succumbed to an injury was found clinging to a branch of an oak in the woods. The Evening Grosbeak and Hudsonian Chickadee were first seen, in the same spot, on Dec. 17, when a pair of the former and two individuals of the latter were observed. This is the first New Jersey record of the Hudsonian Chickadee, but it is uncertain whether the birds belong to the typical form or to some other subspecies.—W. DE W. MILLER.

Princeton, N. J. (to Harlingen, Sourland Mountains, Blawenburg and return). Distance, 27 miles.—Dec. 21; 8:45 A.M. to 4:30 P.M. Cloudy, foggy through A.M. and late P.M.; 5 to 15 in. of soft, slushy snow; wind north, light; temp. 38°. Ring-necked Pheasant, 2; Marsh Hawk, 1; Sparrow Hawk, 2; Downy Woodpecker, 9; Horned Lark subsp., 25; Blue Jay, 3; Crow, 300; Starling, 450; Meadowlark, 9; Purple Finch, 9; Goldfinch, 25; Redpoll, 7; Tree Sparrow, 120; Junco, 200; Song Sparrow, 6; Cardinal, 1; chickadee sp., 8; White-breasted Nuthatch, 1. Total, 18 species, 1,178 individuals. Dec. 13, from window: White-winged Crossbill, 2; Ruby-crowned Kinglet, 1. Dec. 26, Evening Grosbeak, 1 male.—HAROLD R. WANLESS.

Vineland, N. J. (six miles northeast of Vineland).—Dec. 25; 10 A.M. to 4:20 P.M. Cloudy in forenoon, clear in afternoon; ground bare in fields, snow patches in woods; wind brisk; temp. 40°. Red-tailed Hawk, 1; Downy Woodpecker, 1; Crow, 4; Starling(?) flock of 100+; Tree Sparrow, 7; Song Sparrow, 2; Junco, 130. Total, 7 species, about 245 individuals.—WM. W. FAIR.

Lititz, Pa. (northern Lancaster County, Valley of the Hammer Creek).—Dec. 23; 8 A.M. to 5 P.M. Clear; no wind; 5 in. of snow; temp. 25°. Bob-white, 8 coveys, 88 birds; Goshawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Pigeon Hawk, (identified at close range, unusual in this region); Screech Owl, 1; Turkey Vulture, 4; Downy Woodpecker, 6; Yellow-bellied Sapsucker, 1; Flicker, 2; Blue Jay, 3; Crow, 2,000; Meadowlark, 1; Redpoll, 22; Slate-colored Junco, 60; Song Sparrow, 14; Tree Sparrow, 25; Cardinal, 2; Shrike, 1; Winter Wren, 2; Brown Creeper, 1; White-breasted Nuthatch, 7; Black-capped Chickadee, 5; Golden-crowned Kinglet, 5; Robin, 1. Total, 26 species, 255 individuals (exclusive of Crows).—HERBERT H. BECK and ABRAHAM BECK MILLER.

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McKeesport, Pa.—Dec. 23, 1916; 7:15 A.M. to 5:30 P.M. Extremely clear; light snow in places; wind southeast, light; temp. 20° to 32°. Distance, 16 miles. Observers together except for 3 hours; covered same ground. Hairy Woodpecker, 1; Downy Woodpecker, 4; Crow, 1,500 flying overhead (about 20,000 around roost, of which many could be seen in the distance); Purple Finch, 2; Goldfinch, 1; Tree Sparrow, 70; Junco, 43; Song Sparrow, 15; Cardinal, 22; Carolina Wren (heard singing), 1; Winter Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 4; Tufted Titmouse, 5; Chickadee, 12; Robin, 2. Total, 16 species, 185 individuals (exclusive of thousands of Crows).—THOS. L. MCCONNELL and L. F. SAVAGE.

Philadelphia, Pa. (Fairmount Park).—Dec. 24; 9 A.M. to 1 P.M. Clear, light clouds; inch of snow, but many bare spots; wind southeast; temp. 30° to 40°. Herring Gull, 25; American Merganser, 50; Broad-winged [?—Ed.]Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 4; Flicker, 1; Crow, 20; Starling, 7; White-throated Sparrow, 45; Tree Sparrow, 1; Junco, 55; Song Sparrow, 12; Cardinal, 38; Carolina Wren, 4; Chickadee, 2; Golden-crowned Kinglet, 2. Total, 16 species, 269 individuals.—RICHARD M. PEARCE and WILLIAM PEPPER.

Philadelphia, Pa. (Wynnefield to Woodside, in Fairmount Park).—Dec. 25; 8:30 A.M. to 12:30 P.M. Cloudy; considerable snow in sheltered spots; wind northwest, brisk; temp. 36°. Sparrow Hawk, 1; Downy Woodpecker, 3; Crow, 10; Starling, 30; White-throated Sparrow, 15; Junco, 6; Song Sparrow, 18; Cardinal, 9; Carolina Wren, 1; Chickadee, 9. Total, 10 species, 102 individuals.—J. WILSON CORRISTON.

Pittsburgh, Pa.—Dec. 28; 10:45 A.M. to 4:30 P.M. Clear; ground almost bare; wind east, light; temp. 35°. Distance covered, 15 miles. Cooper's Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Crow, 600; Tree Sparrow, 35; Junco, 40; Song Sparrow, 12; Cardinal, 9; Winter Wren, 2; Brown Creeper, 1; White-breasted Nuthatch, 5; Tufted Titmouse, 8; Chickadee, 15. Total, 13 species, 732 individuals.—THOS. D. BURLEIGH and ALBERT D. MCGREW.

Reading, Pa.—Dec. 25; 7:15 A.M. to 4 P.M. Partly cloudy to clear; 3 in. of snow; high west wind; temp. 30° to 40°. Observers together. Screech Owl, 1; Kingfisher, 1; Downy Woodpecker, 6; Blue Jay, 1; Crow, 20; Meadowlark, 4; Goldfinch, 40; Pine Siskin, 1; White-throated Sparrow, 4; Tree Sparrow, 65; Field Sparrow, 3; Junco, 85; Song Sparrow, 15; Cardinal, 6; Winter Wren, 2; White-breasted Nuthatch, 5; Chickadee, 25; Bluebird, 2. Total, 18 species, 285 individuals. A flock of 6 Red Crossbills on Dec. 10.—MR. and MRS. G. HENRY MENGEL.

Reading, Pa.—Dec. 24; 9 A.M. to 2:30 P.M. Partly cloudy; 3 in. of snow; wind north to northeast; temp. 28°. Sparrow Hawk, 1; Downy Woodpecker, 5; Blue Jay, 3; Crow, 10; Goldfinch, 8; Tree Sparrow, 42; Junco, 35; Song Sparrow, 11; Cardinal, 1; nuthatch sp., 2; Chickadee, 7. Total, 11 species, 125 individuals. I wish to report seeing (in company with Mr. and Mrs. G. Henry Mengel) a flock of 6 Red Crossbills in the vicinity of Reading on December 10.—ANNA P. and MARY E. DEETER.

Springs, Pa.—Dec. 26; 10 A.M. to 1 P.M. Partly cloudy; wind south, light; 3 in. of snow; temp. 32° to 42°. Ruffed Grouse, 1; Great Horned Owl, 1 (5 A.M.); Hairy Woodpecker, 1; Downy Woodpecker, 6; Pine Siskin, 15; Goldfinch, 1; Tree Sparrow, 1; Junco, 12; Song Sparrow, 1; Cardinal, 1; White-breasted Nuthatch, 5; Black-capped Chickadee, 4; Winter Wren, 1. Total, 13 species, 50 individuals.—ANSEL B. MILLER.

West Chester, Pa.—9:30 A.M. to 5 P.M. Cloudy two hours, remainder clear; several inches of snow, but many bare spots; wind west, brisk; temp. 36°. Turkey Vulture, 6; Goshawk, 2; Red-tailed Hawk, 5; Red-shouldered Hawk, 5; Sparrow Hawk, 1; Screech Owl, 1; Downy Woodpecker, 10; American Crow, 1,630 (afternoon flight to great roost); Starling, 76; Redpoll, 70; Goldfinch, 15; White-throated Sparrow, 2; Tree Sparrow, 3; Junco, 105; Song Sparrow, 45; Cardinal, 9; Pipit, 30; Brown Creeper, 1; Mockingbird, 1; White-breasted Nuthatch, 5. Total, 20 species, 2,022 individuals.—C. E. EHINGER.

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Williamsport, Pa.—Dec. 27; 9 A.M. to 4 P.M. Cloudy and sleety; temp. 32° at 8 A.M.; no wind; 5 in. of snow. Distance covered, 9 miles. The two of us covered the same territory. American Merganser, 6; Black Duck, 7; Hawk (Sharp-shinned?), 1; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 13; Crow, 20; Tree Sparrow, 30; Slate-colored Junco, 20; Song Sparrow, 2; Winter Wren, 1; Brown Creeper, 3; White-breasted Nuthatch, 12; Tufted Titmouse, 5; Chickadee, 9; Golden-crowned Kinglet, 6; Bluebird, 4. Total, 17 species, 142 individuals.—JOHN P. and CHAS. V. P. YOUNG.

Wyncote and Glenside, Pa. (to and through the old Baeder Property and return—about 5 miles).—Dec. 24; 8 A.M. to 2 P.M. Fair; ground snow-covered; no wind; temp. 20° to 32°. Hawk sp., 2; Sparrow Hawk, 2; Downy Woodpecker, 6; Flicker, 2; Crow, 16; Starling, 30; Purple Finch, 4; Goldfinch, 4; White-throated Sparrow, 16; Slate-colored Junco, 60; Song Sparrow, 15; Cardinal, 8; Winter Wren, 2; Brown Creeper, 2; White-breasted Nuthatch, 2; Chickadee, 3; Golden-crowned Kinglet, 5. Total, 16 species, 179 individuals.—(MRS. W. B.) JANE G. NOBLE and ESTHER HEACOCK, of the Wyncote (Pa.) Bird Club.

Chevy Chase, Md. (from Chevy Chase Village to Rock Creek, northeast and from the Village to Chevy Chase Lake).—Dec. 26; 8 to 10 A.M. and 2 to 4 P.M. Clear and still; temp. 24° to 28°. Turkey Vulture, 10; Red-shouldered Hawk, 2; Screech Owl, 2; Yellow-bellied Sapsucker, 3; Flicker, 2; Hairy Woodpecker, 1; Downy Woodpecker, 8; Red-headed Woodpecker, 11; Blue Jay, 21; American Crow, 30; Fish Crow, 2; Purple Finch, 8; Goldfinch, 6; White-throated Sparrow, 16; Tree Sparrow, 14; Junco, 80; Song Sparrow, 22; Cardinal, 27; Mockingbird, 4; Carolina Wren, 4; White-breasted Nuthatch, 10; Red-breasted Nuthatch, 2; Tufted Titmouse, 9; Carolina Chickadee, 2; Black-capped Chickadee, 6 (flock 1 mile north of District Line, on Rock Creek); Golden-crowned Kinglet, 2; Bluebird, 19. Total, 27 species, 324 individuals.—S. W. MELLOTT, M.D.

Berwyn, Md., to Anacostia, D.C.—Dec. 23; 8:30 A.M. to 5 P.M. Clear; ground partly snow-covered; wind light, southerly; temp. 27° to 44°. Herring Gull, 1; Canvasback, 1; Turkey Vulture, 29; Marsh Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 3; Red-shouldered Hawk, 4; Southern Downy Woodpecker, 9; Yellow-bellied Sapsucker, 2; Red-headed Woodpecker, 15; Red-bellied Woodpecker, 1; Flicker, 3; Blue Jay, 35; Crow, 3,000; Fish Crow, 8; Red-winged Blackbird, 3; Meadowlark, 10; Purple Grackle, 1; Purple Finch, 2; Goldfinch, 7; White-throated Sparrow, 60; Tree Sparrow, 127; Junco, 305; Song Sparrow, 93; Fox Sparrow, 5; Cardinal, 28; Migrant Shrike, 1; Carolina Wren, 8; Brown Creeper, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 16; Carolina Chickadee, 8; Golden-crowned Kinglet, 7. Total, 33 species, 3,796 individuals. Bluebirds were heard passing overhead on two occasions but were not seen.—IRA N. GABRIELSON and E. R. KALMBACH.

Washington, D. C. (Woodridge, D. C., to Contee, Md., thence to Bowie, Md.).—Dec. 25; 7:30 A.M. to 4 P.M. Partly cloudy; ground partly bare of snow; wind, northwest; temp. low, rising but little above freezing. Observers together. Bob-white, 37; Turkey Vulture, 19; Sharp-shinned Hawk, 1; Cooper's Hawk, 3; Broad-winged Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Yellow-bellied Sapsucker, 3; Red-headed Woodpecker, 1; Red-bellied Woodpecker, 2; Flicker, 8; Blue Jay, 40; Crow, 1,000; Meadowlark, 2; White-winged Crossbill, 23; Goldfinch, 40; Pine Siskin, 1; English Sparrow, 50; White-throated Sparrow, 45; Tree Sparrow, 10; Slate-colored Junco, 65; Song Sparrow. 5; Cardinal, 11; Myrtle Warbler, 3; Mockingbird, 1; Carolina Wren, 3; Winter Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 5; Tufted Titmouse, 7; Carolina Chickadee, 6; Golden-crowned Kinglet, 12; Bluebird, 11. Total, 34 species, 1,423 individuals.—DOUGLAS C. MABBOTT and ERNEST G. HOLT.

Washington, D. C.—Dec. 23; 10 A.M. to 2:30 P.M. Clear; ground partly snow-covered; wind northwest, light; temp. 34°. Bob-white, 10; Turkey Vulture, 11; Hairy

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Woodpecker, 1; Red-headed Woodpecker, 4; Flicker, 3; Blue Jay, 8; Crow, 1,000; Goldfinch, 3; White-throated Sparrow, 50; Song Sparrow, 5; Towhee, 1; Mockingbird, 1; Carolina Wren, 3; Brown Creeper, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 3; Carolina Chickadee, 4. Total, 18 species, about 1,140 individuals.—WALTER DOANE.

Washington, D. C. (Roslyn to Four-mile Run, and Oaks to Wellington, Va.).—8 A.M. to 5:30 P.M. Rain all day; calm; temp. 32° to 40°. Herring Gull, 13; Black Duck, 3; Marsh Hawk, 3; Red-tailed Hawk, 2; Barred Owl, 5; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 7; Red-headed Woodpecker, 3; Red-bellied Woodpecker, 2; Flicker, 4; Blue Jay, 9; Crow, 208; Fish Crow, 3; Starling, 20; Meadowlark, 5; Rusty Blackbird, 1; Crow Blackbird, 9; Purple Finch, 3; White-winged Crossbill (collected), 21; Goldfinch, 1; White-throated Sparrow, 79; Field Sparrow, 2; Tree Sparrow, 23; Junco, 160; Song Sparrow, 37; Swamp Sparrow, 5; Cardinal, 10; Myrtle Warbler, 1; Mockingbird, 4; Carolina Wren, 8; Brown Creeper, 3; White-breasted Nuthatch, 3; Red-breasted Nuthatch, 2; Tufted Titmouse, 7; Carolina Chickadee, 7; Golden-crowned Kinglet, 19; Ruby-crowned Kinglet, 2; Bluebird, 20. Total, 39 species, 717 individuals.—A. K. FISHER, W. L. MCATEE, E. A. PREBLE and ALEX. WETMORE.

Washington, D. C. (to Arlington, Va.; Dyke, Va.).—Dec. 24; 9 A.M. to 3:30 P.M. Partly overcast; raw, southerly winds; temp. 40°. Distance 8 miles. Herring Gull, 20; Ring-billed Gull, 2; Lesser Scaup, 1; Canada Goose, 25; Bob-white, 20; Turkey Vulture, 12; Sharp-shinned Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Broad-winged Hawk, 1; Bald Eagle, 1; Sparrow Hawk, 2; Kingfisher, 6; Hairy Woodpecker, 1; Downy Woodpecker, 12; Yellow-bellied Sapsucker, 1; Red-headed Woodpecker, 18; Flicker, 10; Horned Lark, 34; Blue Jay, 3; American Crow, 500; Fish Crow, 3; Red-winged Blackbird, 7; Meadowlark, 2; Rusty Blackbird, 1; Purple Grackle, 6; Purple Finch, 20; Goldfinch, 3; Snow Bunting, 1 (third record in thirty years); White-throated Sparrow, 50; Tree Sparrow, 50; Junco, 100; Song Sparrow, 10; Cardinal, 18; Mockingbird, 3; Carolina Wren, 20; Winter Wren, 2; Brown Creeper, 5; White-breasted Nuthatch, 7; Tufted Titmouse, 10; Carolina Chickadee, 20; Golden-crowned Kinglet, 15; Hermit Thrush, 1; Bluebird, 12. Total, 44 species, 1,039 individuals.—MR. and MRS. LEO D. MINER and RAYMOND W. MOORE.

Dyke, Va. (near Washington, D. C.).—Dec. 31; 11 A.M. to 4 P.M. Clear and raw; ground bare; practically no wind; temp. 25°. Distance 5 miles, through pine woods and old pine fields almost exclusively. Species seen elsewhere, in italics. *Herring Gull*, 12; *Bob-white*, 1; *Turkey Vulture*, 8; Red-shouldered Hawk, 1; *Broad-winged Hawk*, 1; *Sparrow Hawk*, 1; *Kingfisher*, 1; Downy Woodpecker, 5; *Red-headed Woodpecker*, 2; Blue Jay, 8; Crow, 25; *Red-winged Blackbird*, 8; Purple Finch, 12; White-winged Crossbill, 2; Goldfinch, 3; *White-throated Sparrow*, 1 ·; Tree Sparrow, 30; Junco, 30; Song Sparrow, 10; Cardinal, 2; Myrtle Warbler, 1; Carolina Wren, 4; Winter Wren, 2; Brown Creeper, 15; White-breasted Nuthatch, 3; Red-breasted Nuthatch, 40; Tufted Titmouse, 18; Carolina Chickadee, 15; Golden-crowned Kinglet, 50; Ruby-crowned Kinglet, 3; Hermit Thrush, 1; Bluebird, 4. Total, 32 species (individuals of 23 species seen in pines), 326 individuals.—MRS. EDGAR W. MOORE, CLARENCE R. SHOEMAKER, MR. and MRS. LEO D. MINER, and RAYMOND W. MOORE.

Four-Mile Run and New Alexandria, Va. (across from Washington, D. C.).—Dec. 23; 7:30 A.M. to 4:30 P.M. Clear; temp. at 8 A.M., 27°. Distance covered, 6 miles. Herring Gull, 85; Mallard, 3 (males); Black Duck, 170 (doubtless including some female Mallards); Bufflehead, 1; Great Blue Heron, 2; Killdeer, 1; Turkey Vulture, 10; Marsh Hawk, 3; Sparrow Hawk, 1; Screech Owl, 2 (in Washington); Hairy Woodpecker, 2; Downy Woodpecker, 1; Northern Flicker, 3; Blue Jay, 7; American Crow, 500; Fish Crow, 1; Meadowlark, 7; Rusty Blackbird, 4; Purple Finch, 5; White-winged Crossbill, 2 (excellent view); Goldfinch, 12; White-throated Sparrow, 3; Tree Sparrow, 200; Slate-colored Junco, 150; Song Sparrow, 50; Swamp Sparrow, 2; Towhee, 1; Cardinal,

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20; Migrant Shrike, 1; American Pipit, 1 (a familiar bird to me; identification certain); Mockingbird, 5; Carolina Wren, 4; Brown Creeper, 1; Red-breasted Nuthatch, 12; Tufted Titmouse, 9; Carolina Chickadee, 8; Golden-crowned Kinglet, 8; Bluebird, 2. Total, 38 species, 1,299 individuals.—J. P. YOUNG.

Herndon, Va.—Dec. 25; 8 A.M. to 2 P.M. Clear; ground partly snow-covered; wind west, light; temp. 39°. Bob-white, 10; (Turkey?) Vulture, 9; Hairy Woodpecker, 1; Downy Woodpecker, 5; Red-headed Woodpecker, 3; Flicker, 5; Blue Jay, 14; Crow, 21; Meadowlark, 6; grackle sp., 4; Goldfinch, 4; White-throated Sparrow, 7; Tree Sparrow, 3; Junco, 43; Song Sparrow, 7; Cardinal, 6; Cedar Waxwing, 5; Mockingbird, 3; Winter Wren, 1; Brown Creeper, 3; nuthatch sp., 11; Tufted Titmouse, 3; chickadee sp., 12; Bluebird, 7. Total, 24 species, 193 individuals.—PEARL M. BEARD.

Charleston, Kanawha Co., W. Va.—Dec. 24; 8:30 A.M. to 12:30 P.M. Partly cloudy; ground almost clear on south side of hills, north side snow-covered; temp. 29° to 49°. Bob-white, 22; Hairy Woodpecker, 4; Downy Woodpecker, 2; Yellow-bellied Sapsucker, 1; Red-headed Woodpecker, 2; Northern Flicker, 8; American Crow, 1; Goldfinch, 4; White-throated Sparrow, 3; Tree Sparrow, 16; Field Sparrow, 97; Junco, 83; Song Sparrow, 23; Towhee, 14; Cardinal, 44; Catbird, 1 (very rare here in winter, but one stayed last year till January; the one here now came about Dec. 1); Carolina Wren, 19; White-breasted Nuthatch, 8; Tufted Titmouse, 33; Black-capped Chickadee, 12; Robin, 2; Bluebird, 4. Total, 22 species, 403 individuals.—PHILLIP CRAWFER and I. H. JOHNSTON.

Lewisburg, W. Va.—Dec. 26; 8 A.M. to 4:30 P.M. Cloudy; snow on north and west hillsides; wind east, light; temp. 25°. Bob-white, 16; Mourning Dove, 1; Turkey Vulture, 19; Cooper's Hawk, 1; Red-tailed Hawk, 2; Barred Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 17; Pileated Woodpecker, 3; Red-headed Woodpecker (immature), 1; Red-bellied Woodpecker, 11; Flicker, 7; Blue Jay, 29; American Crow, 35; Meadowlark, 12; Purple Finch, 16; Goldfinch, 25; Tree Sparrow, 126; Slate-colored Junco, 294; Song Sparrow, 2; Cardinal, 20; Mockingbird, 1; Carolina Wren, 6; Brown Creeper, 1; White-breasted Nuthatch, 24; Tufted Titmouse, 23; Golden-crowned Kinglet, 7; Bluebird, 9. Total, 28 species, 712 individuals.—CHARLES O. HANDLEY, HARRY E. HANDLEY and PROF. H. C. BAILEY.

White Sulphur Springs, W. Va.—Dec. 25; 11 A.M. to 5:15 P.M. Fine; wind west, light; ground partly snow covered; altitude 1,900 to 2,400 ft.; temp. 38° to 46°. Ruffed Grouse, 3; Turkey Vulture, 1; Cooper's Hawk, 1; Red-shouldered Hawk, 2; Barred Owl, 1; Downy Woodpecker, 6; Yellow-bellied Sapsucker, 1; Blue Jay, 3; Crow, 5; Tree Sparrow, 5; Junco, 150; Cardinal, 2; Brown Creeper, 3; Tufted Titmouse, 2; Black-capped Chickadee, 7; White-breasted Nuthatch, 9; Red-breasted Nuthatch, 3; Golden-crowned Kinglet, 17; Bluebird, 12. Total, 19 species, 233 individuals.—MR. and MRS. STANLEY V. LADOW.

Currituck Sound, N. C.—Dec. 31; dawn until dark. Clear; wind north, fresh; temp. 30° to 38°. Country visited: Monkey Island, Waterlily Island, the Sound, marshes, and beach, live oak and pine woods, cotton and corn fields. Observers together. Holbœll's Grebe, 2; Horned Grebe, 6; Pied-billed Grebe, 1; Herring Gull, 10; Bonaparte's Gull, 18; Hooded Merganser, 24; Mallard, 15; Black Duck, 150; Baldpate, 75; Pintail, 2,000; Redhead, 6,000; Canvasback, 4,500; scaup sp., 4; American Goldeneye, 6; Old-squaw, 3; Ruddy Duck, 1,500; Canada Goose, 4,000; Whistling Swan, 2,000; Great Blue Heron, 4; Coot, 2,500; Wilson's Snipe, 15; Killdeer, 5; Turkey Vulture, 2; Marsh Hawk, 4; Bald Eagle, 5; Sparrow Hawk, 1; Screech Owl, 2; Kingfisher, 4; Southern Hairy Woodpecker, 1; Red-cockaded Woodpecker, 6; Flicker, 4; American Crow, 55; Fish Crow, 12; Red-winged Blackbird, 125; Meadowlark, 100; Boat-tailed Grackle, 15; Purple Finch, 2; Redpoll, 2 (very tame; observed for as long and at as close range as we wished. The A.O.U. check-list gives this species south only to Virginia.); Ipswich

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Sparrow, 2; Savannah Sparrow, 30; Sharp-tailed Sparrow, 1; Chipping Sparrow, 1; Field Sparrow, 12; White-throated Sparrow, 3; Song Sparrow, 41; Swamp Sparrow, 13; Fox Sparrow, 6; Cardinal, 8; Orange-crowned Warbler, 1; Myrtle Warbler, 66; Pine Warbler, 1; Pipit, 2; Mockingbird, 5; Catbird, 1; Carolina Wren, 5; Winter Wren, 1; Long-billed Marsh Wren, 2; Brown Creeper, 1; Brown-headed Nuthatch, 25; Carolina Chickadee, 6; Golden-crowned Kinglet, 7; Blue-gray Gnatcatcher, 1 (most northern winter record). Total, 62 species, 23,565 individuals. Seen also the day before or the day after the census: Loon, 1; Red-breasted Merganser, 75; Black Vulture, 5; Downy Woodpecker, 1; Red-bellied Woodpecker, 1; Goldfinch, 100; Pine Siskin, 18; Junco, 20; Towhee, 4; Cedar Waxwing, 1; House Wren, 1; Brown Thrasher, 2; Tufted Titmouse, 10; Ruby-crowned Kinglet, 3; Hermit Thrush, 2; Robin, 10, making a grand total of 78 species.—J. M. JOHNSON, J. T. NICHOLS and LUDLOW GRISCOM.

Lexington, N. C.—Dec. 26; 9:30 A.M. to 5 P.M. Cloudy with a little rain; ground bare, frost in some places; wind north to northeast, moderate; temp. 37° to 46°. Bob-white, 26; Turkey Vulture, 17; Red-shouldered(?) Hawk, 1; Sparrow Hawk, 1; Downy Woodpecker, 2; Yellow-bellied Sapsucker, 1; Northern Flicker, 2; Phœbe, 2; Blue Jay, 2; Crow, 17; Meadowlark, 18; Purple Finch, 20; Goldfinch, 5; White-throated Sparrow, 34; Field Sparrow, 51; Slate-colored Junco, 139; Song Sparrow, 27; Fox Sparrow, 1; Towhee, 1; Cardinal, 26; Cedar Waxwing, 17; Myrtle Warbler, 1; Carolina Wren, 18; Winter Wren, 2; Tufted Titmouse, 2; Carolina Chickadee, 12; Golden-crowned Kinglet, 3; Hermit Thrush, 3; Bluebird, 61. Total, 29 species, 512 individuals. The identification of the Phœbe was solely by its note; but I have seen this species hereabout on Oct. 30 and Feb. 17, so it very probably winters.—THEODORE ANDREWS.

Louisburg, N. C.—Dec. 25. Clear; ground bare; wind light. Bob-white, 1; Turkey Vulture, 4; Black Vulture, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Red-headed Woodpecker, 2; Flicker, 2; Phœbe, 2; Blue Jay, 1; Crow, 4; Red Crossbill, 2; Goldfinch, 1; White-throated Sparrow, 25; Chipping Sparrow, 6; Field Sparrow, 6; Slate-colored Junco, 250; Song Sparrow, 15; Cardinal, 1; Mockingbird, 1; Carolina Wren, 4; Brown-headed Nuthatch, 6; Tufted Titmouse, 4; Chickadee, 10; Golden-crowned Kinglet, 10; Ruby-crowned Kinglet, 1. Total, 25 species, 358 individuals.—CLIFTON and ROBERT ASHBY and JOSEPH C. JONES.

Raleigh, N. C.—Dec. 23; 7 A.M. to 1 P.M. Clear; ground bare; wind southwest, very light; temp. 28°. Great Blue Heron, 1; Killdeer, 1; Turkey Vulture, 25; Marsh Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Southern Hairy Woodpecker, 1; Red-headed Woodpecker, 2; Flicker, 1; Phœbe, 1; Crow, 5; Red-winged Blackbird, 100; Meadowlark, 10; Purple Grackle, 1; Purple Finch, 5; Goldfinch, 6; White-throated Sparrow, 100; Field Sparrow, 6; Slate-colored Junco, 20; Song Sparrow, 150; Fox Sparrow, 50; Cardinal, 12; Carolina Wren, 6; Brown Creeper, 2; Red-breasted Nuthatch, 6; Tufted Titmouse, 2; Carolina Chickadee, 12; Golden-crowned Kinglet, 25; Ruby-crowned Kinglet, 1; Hermit Thrush, 3; Robin, 2. Total, 32 species, 561 individuals.—C. S. BRIMLEY and EDWARD BRIMLEY.

Columbia, S. C.—Dec. 25; 10 A.M. to 4 P.M. Cloudy and damp; ground bare; no wind; temp. 45°. Yellow-bellied Sapsucker, 1; Red-headed Woodpecker, 3; Flicker, 2; Meadowlark, 25; Goldfinch, 6; Vesper Sparrow, 4; White-throated Sparrow, 10; Chipping Sparrow, 1; Field Sparrow, 22; Junco, 100; Loggerhead Shrike, 3; Myrtle Warbler, 2; Palm Warbler, 6; Mockingbird, 8; Brown Thrasher, 6; Carolina Wren, 8; Golden-crowned Kinglet, 2; Ruby-crowned Kinglet, 1; Hermit Thrush, 1; Bluebird, 22. Total, 20 species, 233 individuals.—ALEX. R. TAYLOR and MARY E. CARR.

Monetta, S. C.—Dec. 25; 9 A.M. to 1 P.M. Cloudy; wind slight; temp. 50°. Dove, 100; Turkey Vulture, 2; Black Vulture, 12; Sparrow Hawk, 1; Southern Downy Woodpecker, 1; Yellow-bellied Sapsucker, 1; Southern Flicker, 4; Phœbe, 2; Blue Jay, 8; Red-winged Blackbird, 75; Meadowlark, 60; Goldfinch, 10; White-throated Sparrow,

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24; Slate-colored Junco, 60; Song Sparrow, 12; Towhee, 1; Cardinal, 2; Cedar Waxwing, 15; Loggerhead Shrike, 3; Mockingbird, 6; Brown Thrasher, 2; Carolina Wren, 4; Ruby-crowned Kinglet, 2; Robin, 12; Bluebird, 30. Total, 24 species, 450 individuals. —BELLE WILLIAMS.

Spartanburg, S. C.—Dec. 26; 9 A.M. to 1 P.M. Cloudy; ground bare; wind northeast, light; temp. 37°. Bob-white, 8; Mourning Dove, 30 (1 flock); Turkey Vulture, 3; Red-tailed Hawk, 1; Sparrow Hawk, 1; Southern Downy Woodpecker, 2; Red-headed Woodpecker, 2; Flicker, 6; Phœbe, 3; Blue Jay, 30; American Crow, 4; Meadowlark, 23; Purple Grackle, 16; Purple Finch, 37; Goldfinch, 39; White-throated Sparrow, 17; Field Sparrow, 18; Slate-colored Junco, 127; Song Sparrow, 14; Towhee, 9; Cardinal, 21; Loggerhead Shrike, 1; Myrtle Warbler, 8; Pine Warbler, 2 (1 singing); Mockingbird, 3; Brown Thrasher, 1 (unusual); Carolina Wren, 9; Red-breasted Nuthatch, 5; Tufted Titmouse, 1; Carolina Chickadee, 13; Golden-crowned Kinglet, 19; Hermit Thrush, 9; Robin, 1; Bluebird, 9. Total, 34 species, 492 individuals.—GABRIEL CANNON.

Atlanta, Ga. (Piedmont Park, Collier's Woods, South River and Proctor Creek).—Dec. 24; 6 A.M. to 6 P.M. Cloudy; wind east; temp. 40° to 50°. Observers together from 10 A.M. till noon, following different routes the rest of the day. Pied-billed Grebe, 1; Mallard, 1; Ring-necked Duck, 1; Green Heron, 1; Wilson's Snipe, 25; Killdeer, 30; Mourning Dove, 9; Red-tailed Hawk, 2; Red-shouldered Hawk, 1; Sparrow Hawk, 7; Hairy Woodpecker, 4; Downy Woodpecker, 10; Yellow-bellied Sapsucker, 10; Pileated Woodpecker, 1; Red-headed Woodpecker, 8; Red-bellied Woodpecker, 2; Flicker, 30; Phœbe, 6; Blue Jay, 50; Crow, 15; Red-winged Blackbird, 500; Meadowlark, 100; Purple Grackle, 10; Purple Finch, 24; Goldfinch, 200; Vesper Sparrow, 4; Savannah Sparrow, 10; White-throated Sparrow, 150; Chipping Sparrow, 6; Field Sparrow (1 partial albino), 125; Junco, 200; Song Sparrow, 60; Swamp Sparrow, 30; Fox Sparrow, 8; Towhee, 50; Cardinal 30; Cedar Waxwing, 20; Loggerhead Shrike, 2; Myrtle Warbler, 7; Pine Warbler, 6; Maryland Yellowthroat, 2; American Pipit, 50; Mockingbird, 10; Brown Thrasher, 1; Carolina Wren, 20; Bewick's Wren, 1; House Wren, 2; Winter Wren, 10; Brown Creeper, 6; White-breasted Nuthatch, 6; Brown-headed Nuthatch, 2; Tufted Titmouse, 10; Carolina Chickadee, 18; Golden-crowned Kinglet, 10; Ruby-crowned Kinglet, 10; Hermit Thrush, 8; Robin, 2; Bluebird, 20. Total, 64 species, about 1,985 individuals.—JAMES M. SANFORD and W. E. HANNUM.

Okefinokee Swamp, Ga.—Dec. 27; 5:40 A.M. to 11 P.M. Misty rain in early morning, rest of day clear; practically no wind; temp. about 55°. Territory covered: Billy's Island to Dinner Pond Lake, about 15 miles by boat through a cypress swamp. Water-Turkey, 2; Black Duck, 3; Wood Duck, 10; Ward's Heron, 4 (1 collected); American Egret, 1; Sandhill Crane, 2; Wilson's Snipe, 20; Killdeer, 3; Bob-white, 2; Mourning Dove, 12; Turkey Vulture, 12; Florida Red-shouldered Hawk, 4; Sparrow Hawk, 1; Florida Barred Owl, 8; Kingfisher, 1; Southern Hairy Woodpecker, 2; Pileated Woodpecker, 10; Red-bellied Woodpecker, 6; Flicker, 6; Phœbe, 12; Florida Blue Jay, 3; Cowbird, 1; (Florida?) Red-winged Blackbird, 100; Southern Meadowlark, 1; Florida Grackle, 1; Purple Finch, 1; Goldfinch, 8; Pine Siskin, 4; Vesper Sparrow, 2; White-throated Sparrow, 2; Field Sparrow, 1; Song Sparrow, 1; Swamp Sparrow, 10; Towhee, (*P. e. erythrophthalmus*), 2; Cardinal, 4; Cedar Waxwing, 12; Myrtle Warbler, 16; Mockingbird, 10; Catbird, 7; Brown Thrasher, 3; Carolina Wren, 6; House Wren, 1; Brown-headed Nuthatch, 1; Carolina Chickadee, 2; Golden-crowned Kinglet, 2; Ruby-crowned Kinglet, 4; Hermit Thrush, 2; Robin subsp., 100; Bluebird, 1. Total, 49 species, 432 individuals.—FRANCIS HARPER, DAVID LEE and FARLEY LEE.

Daytona Beach, Fla. (within two miles).—Dec. 27; 8:30 A.M. to 4:30 P.M. Clear; ground wet; wind southeast, light to brisk; temp. 70°. Herring Gull, 15; Laughing Gull, 276; Bonaparte's Gull, 316; Royal Tern, 38; Least Tern, 3; cormorant sp., 2; Brown Pelican, 3; Ward's Heron, 11; Louisiana Heron, 1; Little Blue Heron, 9; Least Sand-

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piper, 1; Semipalmated Sandpiper, 5; Sanderling, 168; Killdeer, 9; Ruddy Turnstone, 3; Ground Dove, 6; Turkey Vulture, 3; Black Vulture, 9; Little Sparrow Hawk, 3; Kingfisher, 11; Red-headed Woodpecker, 2; Red-bellied Woodpecker, 2; Flicker, 3; Phœbe, 6; Florida Blue Jay, 35; Florida Jay, 3; Fish Crow, 2; Southern Meadowlark, 17; Red-eyed Towhee, 3; Florida Cardinal, 3; Tree Swallow, 10; Loggerhead Shrike, 23; White-eyed Vireo, 2; Myrtle Warbler, 27; Palm Warbler, 4; Florida Yellowthroat, 2; Mockingbird, 23; House Wren, 3; Ruby-crowned Kinglet, 3; Blue-gray Gnatcatcher, 5. Total, 40 species, 1,064 individuals.—MARTHA K. TICHENOR.

Daytona Beach, Fla.—Dec. 26; 10:45 A.M. to 5 P.M. Ground muddy; almost no wind; temp. 67°+. Horned Grebe, 6; Pied-billed Grebe, 2; Herring Gull, 4; Bonaparte's Gull, 13; Royal Tern, 26; Florida Cormorant, 3; Brown Pelican, 1; Red-breasted Merganser, 7; Lesser Scaup, 109; Wood Ibis, 11; Ward's Heron, 25; Louisiana Heron, 26; Little Blue Heron, 31; Coot, 1; Least Sandpiper, 5; Semipalmated Sandpiper, 25; Sanderling, 52; Spotted Sandpiper, 2; Black-bellied Plover, 10; Killdeer, 57; Turkey Vulture, 10; Marsh Hawk, 1; Little Sparrow Hawk, 1; Kingfisher, 12; Phœbe, 3; Florida Blue Jay, 2; Fish Crow, 2; Florida Grackle, 2; Goldfinch, 5; Towhee, 2; Loggerhead Shrike, 3; Myrtle Warbler, 26; Palm Warbler, 2; Mockingbird, 10; House Wren, 2; Blue-gray Gnatcatcher, 1. Total, 36 species, 505 individuals.—MRS. HENRY A. AINSWORTH.

Tallahassee, Fla.—Dec. 25; 9:30 to 11:30 A.M. Cloudy; no wind; temp. 68°. Killdeer, 3; Turkey Vulture, 9; Black Vulture, 30; Yellow-bellied Sapsucker, 1; Red-bellied Woodpecker, 9; Flicker, 1; Phœbe, 5; Florida Blue Jay, 45; Crow, 9; Fish Crow, 7; Meadowlark, 35; Goldfinch, 65; Towhee, 4; Florida Cardinal, 4; Loggerhead Shrike, 3; Mockingbird, 8; Carolina Wren, 3; Tufted Titmouse, 6; Black-capped Chickadee (sang 'phœbe' song repeatedly), 10; Ruby-crowned Kinglet, 3; Robin, 8. Total, 22 species, 268 individuals.—G. CLYDE FISHER.

Anniston, Ala.—Dec. 25; out seven hours. Cloudy; wind southeast, light; temp. 38° to 58°; radius of area, about 4 miles. Mallard, 6; Killdeer, 11; Turkey Vulture, 18; Marsh Hawk, 1; Red-tailed Hawk, 1; Sparrow Hawk, 1; Southern Hairy Woodpecker, 2; Southern Downy Woodpecker, 8; Yellow-bellied Sapsucker, 6; Red-headed Woodpecker, 2; Flicker, 17; Phœbe, 1; Blue Jay, 34; Crow, 5; Red-winged Blackbird, 250; Meadowlark, 47; Bronzed Grackle, 200; Purple Finch, 1; Goldfinch, 9; White-throated Sparrow, 180; Chipping Sparrow, 12; Field Sparrow, 85; Slate-colored Junco, 56; Song Sparrow, 70; Fox Sparrow, 2; Towhee, 35; Cardinal, 37; Cedar Waxwing, 18; Migrant(?) Shrike, 1; Myrtle Warbler, 12; Palm Warbler, 75; Pipit, 1; Mockingbird, 3; Brown Thrasher, 11; Carolina Wren, 14; Brown Creeper, 2; Tufted Titmouse, 1; Carolina Chickadee, 10; Golden-crowned Kinglet, 6; Ruby-crowned Kinglet, 1; Hermit Thrush, 4; Bluebird, 22. Total, 42 species, about 1,278 individuals.—R. H. DEAN.

Nashville, Tenn. (Bellemeade to Glendale, including L. and N. (40-acre) reservoir).—8 A.M. to 3 P.M. Cloudy; ground wet and bare except snow still on hillsides; wind south, light; temp. 34°. Mallard, 1; Teal(?), 1; Killdeer, 6; Bob-white, 6; Mourning Dove, 2; Black Vulture, 1; Turkey Vulture, 2; Sharp-shinned Hawk, 1; Red-tailed Hawk, 3; Sparrow Hawk, 6; Kingfisher, 1; Downy Woodpecker, 3; Pileated Woodpecker, 1; Red-bellied Woodpecker, 4; Red-headed Woodpecker, 2; Yellow-bellied Sapsucker, 2; Northern Flicker, 40; Prairie Horned Lark, 370 (five flocks); Blue Jay, 2; Crow, 13; Meadowlark, 80; Bronzed Grackle, 21; Goldfinch, 6; Savannah Sparrow, 5; White-crowned Sparrow, 1; White-throated Sparrow, 45; Field Sparrow, 6; Song Sparrow, 27; Fox Sparrow, 1; Slate-colored Junco, 75; Towhee, 35 (one flock of 25); Cardinal, 20; Cedar Waxwing, 2; Myrtle Warbler, 4; Mockingbird, 25; Carolina Wren, 12; Bewick's Wren, 2; Brown Creeper, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 13; Carolina Chickadee, 15; Ruby-crowned Kinglet, 1; Robin, 105 (five flocks); Bluebird, 17. Total, 44 species, 988 individuals.—A. F. GANIER.

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Hopkinsville, Ky.—Dec. 25; 9 to 11 A.M.; 2 to 4 P.M. Clear; patches of snow; wind east, calm; temp. A.M. 46°, P.M. 42°. Hairy Woodpecker, 1; Blue Jay, 8; American Crow, 9; White-throated Sparrow, 3; Junco, 30; Towhee, 50; Cardinal, 4; Mockingbird, 2; White-breasted Nuthatch, 2; Tufted Titmouse, 15; Black-capped Chickadee, 1; Bluebird, 4. Total, 12 species, 129 individuals.—W. E. GRAY and W. E. GRAY, JR.

Hinsdale, Ill.—Dec. 27; 8 A.M. to 3 P.M. Clear; 3 in. of snow; wind west, light; temp. 20°. Observers together. Herring Gull, 5; Hairy Woodpecker, 3; Downy Woodpecker, 7; Red-headed Woodpecker, 5; Blue Jay, 12; Crow, 13; Meadowlark, 1; Bronzed Grackle, 1; Purple Finch, 20; Red Crossbill, 7; Goldfinch, 1; Tree Sparrow, 25; Junco, 20; Cardinal, 10; White-breasted Nuthatch, 7; Chickadee, 1. Total, 16 species, 138 individuals.—MISS ESTHER CRAIGMILE and MRS. C. E. RAYMOND.

Peoria, Ill.—10 A.M. to 3 P.M. Clear; ground bare; wind west, moderate; temp. 32°. Herring Gull, 4; Ring-billed Gull, 5; Hooded Merganser, 13; Redhead, 2; Coot, 16; Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 5; Redpoll, 12; Goldfinch, 10; Tree Sparrow, 7; Junco, 50; Song Sparrow, 12; Cardinal, 30; Carolina Wren, 4; White-breasted Nuthatch, 6; Tufted Titmouse, 8; Black-capped Chickadee, 32. Total, 18 species, 221 individuals.—JAMES SEDWICK and REGINALD PACKARD.

Port Byron, Ill. (3 to 5 miles southeast).—Dec. 25; 8 A.M. to 2:30 P.M. Cloudy; 4 in. of snow; wind east, moderate; temp. 12° to 28°. Bob-white, 40; Rough-legged Hawk, 1; Barred Owl, 1; Hairy Woodpecker, 7; Downy Woodpecker, 10; Red-bellied Woodpecker, 4; Prairie Horned Lark, 6; Blue Jay, 5; Crow, 15; Redpoll, 7; Tree Sparrow, 250; Junco, 75; Cardinal, 1; Brown Creeper, 3; White-breasted Nuthatch, 8; Tufted Titmouse, 4; Chickadee, 22. Total, 17 species, 459 individuals.—J. J. SCHAFER.

Rantoul, Ill.—9 A.M. to 3 P.M. Cloudy; 6 in. of snow, drifted; wind east, brisk; temp. 15°+. Bob-white, 8; Prairie Hen, 27; Red-tailed Hawk, 2; Broad-winged Hawk, 1; Rough-legged Hawk, 10; Sparrow Hawk, 2; Screech Owl, 4; Hairy Woodpecker, 15; Downy Woodpecker, 20; Red-bellied Woodpecker, 1; Flicker, 2; Prairie Horned Lark, 100; Blue Jay, 10; Crow, 500; Bronzed Grackle, 1; Goldfinch, 8; Lapland Longspur, 10; Tree Sparrow, 50; Slate-colored Junco, 30; Song Sparrow, 25; Swamp Sparrow, 3; Cardinal, 8; Brown Creeper, 2; White-breasted Nuthatch, 20; Red-breasted Nuthatch, 10; Tufted Titmouse, 63; Black-capped Chickadee, 14; Golden-crowned Kinglet, 1. Total, 28 species, 948 individuals. 1 Redpoll recorded Dec. 22.—GEORGE E. EKBLAW and EDDIE L. EKBLAW.

Fort Wayne, Ind.—Dec. 28; 7:45 A.M. to 1 P.M. Clear; ground partly bare; wind west, strong; temp. 17°. Downy Woodpecker, 12; Blue Jay, 3; Crow, 48; Purple Finch, 1; Tree Sparrow, 25; Slate-colored Junco, 7; Song Sparrow, 1; Fox Sparrow (?), 1; Cardinal, 4; White-breasted Nuthatch, 11; Tufted Titmouse, 7; Black-capped Chickadee, 22; Robin, 1. Total, 12 species, 143 individuals.—CHAS. A. STOCKBRIDGE and A. A. RINGWALT.

Gary to Dune Park, Ind. (about 15 miles).—Dec. 24; 9:30 A.M. to 3:30 P.M. Cloudy; snowing in A.M.; wind southwest to northwest; 8 in. of snow; temp. 30°. Herring Gull, 12; Bob-white, 7; Screech Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 1; Blue Jay, 4; Crow, 1; Tree Sparrow, 53; Junco, 46; Chickadee, 3. Total, 10 species, 130 individuals.—J. W. FULTON and LEONARD LYONS.

Indianapolis, Ind.—8:30 A.M. to 1:30 P.M. Ground clear of snow in open; clear; west wind, brisk; temp. 40°. Screech Owl, 1; Kingfisher, 2; Hairy Woodpecker, 1; Downy Woodpecker, 1; Crow, 53; Bronzed Grackle, 1; Tree Sparrow, 39; Junco, 30; Song Sparrow, 9; Cardinal, 22; White-breasted Nuthatch, 5; Tufted Titmouse, 17; Chickadee, 7. Total, 13 species, 194 individuals.—RAYMOND MEAD, BERG MOORE and EDWARD BLACK.

Indianapolis, Ind.—Dec. 25; 10 A.M. to 2 P.M. Partly cloudy; 3 in. of old snow; wind east, light; temp. 25° to 31°. Bob-white, 10; Mourning Dove, 1; Kingfisher, 2; Hairy

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Woodpecker, 1; Downy Woodpecker, 7; Bronzed Grackle, 3; Tree Sparrow, 72; Slate-colored Junco, 55; Song Sparrow, 26; Cardinal, 40; Carolina Wren, 3; Brown Creeper, 8; White-breasted Nuthatch, 12; Tufted Titmouse, 38; Black-capped Chickadee, 10; Bluebird, 2. The first time that I ever saw Bluebirds on or near Christmas, but they have been seen almost every week since the close of migration showing conclusively that some individuals are wintering in this locality. Total, 17 species, 344 individuals.—ETTA S. WILSON.

Lafayette, Ind.—8:45 A.M. to 12:45 P.M. Partly cloudy; snow on ground; wind northeast, brisk; thawing in sun. Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 10; Crow, 11; Tree Sparrow, 14; Slate-colored Junco, 15; Song Sparrow, 20; Cardinal, 14; Carolina Wren, 2; Brown Creeper, 1; White-breasted Nuthatch, 7; Tufted Titmouse, 25. Total, 13 species, 125 individuals.—M. L. FISHER.

Roachdale, Ind.—Dec. 25; 8:30 A.M. to 12:30 P.M. Partly cloudy; 2 in. of snow; wind southeast, light; temp. 20° to 30°. Kingfisher, 1; Downy Woodpecker, 11; Red-bellied Woodpecker, 4; Flicker, 2; Blue Jay, 6; American Crow, 36; Meadowlark, 6; Tree Sparrow, 104; Slate-colored Junco, 5; Song Sparrow, 6; Cardinal, 1; Brown Creeper, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 9; Black-capped Chickadee, 20; Robin, 1. Total, 16 species, 216 individuals. (Also 3 species unidentified hawks—8 individuals).—WARD J. RICE.

Cadiz, Ohio.—Dec. 24; 9 A.M. to 12:45 P.M.; 2:40 to 4 P.M. Cloudy; 2½ in. of snow; wind southeast, light; temp. 24° to 34°. Distance walked, 9½ miles. Bob-white, (tracks of 21); Mourning Dove, 1; Ring-necked Pheasant, 1; Hairy Woodpecker, 1; Downy Woodpecker, 5; Red-bellied Woodpecker, 8; Prairie Horned Lark, (heard) 1; Blue Jay, 2; Crow, 4; Tree Sparrow, 10; Junco, 20; Song Sparrow, 6; Cardinal, 7; Carolina Wren, 3; White-breasted Nuthatch, 9; Tufted Titmouse, 9 (sings); Chickadee, 7. Total, 16 species, 126 individuals.—HARRY B. MCCONNELL, JOHN WORLEY and RAYMOND TIMMONS.

Laceyville, Ohio.—Dec. 24; 9 A.M. to 12 M. Cloudy; 4 in. of snow; wind moderate, shifting from east to southwest; temp. 20° to 34°. Bob-white, 18; Red-tailed Hawk, 2; Screech Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 10; Red-bellied Woodpecker, 5; Yellow-bellied Sapsucker, 1; Redpoll, 35; Goldfinch, 3; Tree Sparrow, 75; Junco, 40; Song Sparrow, 8; Cardinal, 8; Carolina Wren, 3; White-breasted Nuthatch, 6; Tufted Titmouse, 10; Chickadee, 5. Total, 17 species, 235 individuals.—E. E. SMITH.

Canton, Ohio.—Dec. 24; 8 A.M. to 2:30 P.M. Cloudy; 12 in. of snow with numerous much deeper drifts; wind southeast, moderate in morning, stronger in afternoon; temp. 18° to 30°. Bob-white, 20; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 5; Tree Sparrow, 116; Slate-colored Junco, 33; Song Sparrow, 6; Cardinal, 10; Brown Creeper, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 9; Black-capped Chickadee, 7. Total, 12 species, 212 individuals.—EDWARD D. KIMES.

Canton, Ohio.—Dec. 28; 11 A.M. to 2:30 P.M. Clear; ground covered with snow, much drifted; wind west; temp. 30°. Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 3; Tree Sparrow, 3; Song Sparrow, 7; Cardinal, 5; Brown Creeper, 1; White-breasted Nuthatch, 10; Tufted Titmouse, 3; Chickadee, 10; Golden-crowned Kinglet, 1. Total, 12 species, 51 individuals.—MAY S. DANNER and MARY KING.

Cumberland, Ohio.—Dec. 28; 10:30 A.M. to 5 P.M. Fair; ground bare; wind west, brisk; temp. 32° to 35°. Red-shouldered Hawk, 2; Hairy Woodpecker, 3; Downy Woodpecker, 3; Crow, 34; Tree Sparrow, 55; Junco, 3; Song Sparrow, 9; Cardinal, 4; Carolina Wren, 4; White-breasted Nuthatch, 1; Tufted Titmouse, 5; Chickadee, 6. Total, 12 species, 128 individuals.—HAZEL SCOTT and FOSTER H. SCOTT.

Hillsboro, Ohio.—Dec. 25; 8 A.M. to 12 M., and 1 to 2 P.M. Clear followed by cloudy; 1 ft. of snow crusted over; light southwest wind; temp. 10° to 30°. Walked 1 mile south, then rode north in machine and walked 2 miles. Bob-white, 40; Mourning Dove, 30;

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Red-shouldered Hawk, 2; (Red-tailed?) Hawk, 1; Sharp-shinned Hawk, 1; Sparrow Hawk, 3; Barred Owl, 1; Hairy Woodpecker, 8; Downy Woodpecker, 10; Yellow-bellied Sapsucker, 2; Red-bellied Woodpecker, 4; Flicker, 5; Horned Lark, 50; Blue Jay, 11; Bronzed Grackle, 4; Crow, 250; Meadowlark, 62; Tree Sparrow, 50; White-throated Sparrow, 12; Slate-colored Junco, 200; Song Sparrow, 60; Cardinal, 35; Northern Shrike, 1; Migrant Shrike, 1; Carolina Wren, 2; White-breasted Nuthatch, 2; Red-breasted Nuthatch, 1; Chickadee, 40; kinglet sp., 1; Robin, 1. Total, 29 species, 889 individuals.—LETHA E. ROADS.

Meadow Brook and East Harbor, Lakeside, Ohio.—Dec. 25; 9:30 A.M. to 3 P.M. Clear; 8 in. of snow; wind northwest, light; temp. 20°. Nine miles. Canvasback, 4; Bob-white, 15; Ring-necked Pheasant, 5; Bald Eagle, 2; Sparrow Hawk, 2; Downy Woodpecker, 6; American Crow, 9; Purple Finch, 2; Redpoll, 34; Goldfinch, 1; Tree Sparrow, 45; Song Sparrow, 8; Cardinal, 13; Bohemian Waxwing, 2. Total, 14 species, 148 individuals.—ROBERT KELLY and G. I. HAUXHURST.

Mt. Vernon, Ohio.—9:30 A.M. to 12:30 P.M. Foot of snow; wind west, light; temp. 12°. Sparrow Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 8; Red-bellied Woodpecker, 1; Horned Lark, 9; Blue Jay, 9; Crow, 2; Redpoll, 20; Goldfinch, 5; Tree Sparrow, 22; Junco, 7; Song Sparrow, 17; Cardinal, 14; Carolina Wren, 1; Brown Creeper, 2; White-breasted Nuthatch, 16; Tufted Titmouse, 6; Chickadee, 15. Total, 18 species, 154 individuals.—MISS CORA and V. F. DEBER.

Salem, Ohio.—Dec. 25; 8:30 A.M. to 12:30 P.M. Cloud sheet; wind northwest, light; 4 to 18 in. of snow; temp. 26°. Distance walked, 4 miles, home by auto 2 miles. Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 4; Cardinal, 5; White-breasted Nuthatch, 2; Tufted Titmouse, 5. Total, 7 species, 24 individuals.—H. W. WEISGERBER.

Sewickley, Pa.—Dec. 25; 9 A.M. to 12 M. Cloudy; ground bare, snow in the woods; wind northwest, very brisk and fresh; temp. 30°. Distance covered, about 7 miles. Red-shouldered Hawk, 1; Downy Woodpecker, 17; American Crow, 3; American Goldfinch, 1; Tree Sparrow, 40; Junco, 6; Song Sparrow, 1; Cardinal, 6; Brown Creeper, 2; White-breasted Nuthatch, 6; Tufted Titmouse, 12; Chickadee, 10. Total, 12 species, 105 individuals.—BAYARD H. CHRISTY and FRANCIS A. HEGNER.

Toledo, Ohio (Woodlawn Cemetery, Ottawa Park and land west of city).—8 A.M. to 2 P.M. Clear; several in. of snow; wind very light; temp. 25° to 30°. Bob-white, 9; Long-eared Owl, 1; Downy Woodpecker, 4; Blue Jay, 7; Crow, 2; Purple Finch, 10; Goldfinch, 4; Tree Sparrow, 17; Junco, 23; Song Sparrow, 3; Cardinal, 9; Brown Creeper, 3; White-breasted Nuthatch, 4; Chickadee, 7; Robin, 1. Total, 15 species, 104 individuals.—EDWARD METZGER.

West Lafayette, Ohio.—Dec. 27; 8 A.M. to 2 P.M. Heavy clouds, fog, drizzling rain; snow in woods and on north hillsides; wind southwest; temp. 48°. Walked 11 miles. Mourning Dove, 1; Red-shouldered Hawk, 2; Great Horned Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 3; Blue Jay, 3; Crow, 4; Tree Sparrow, 50; Slate-colored Junco, 62; Song Sparrow, 8; Cardinal, 23; Pipit(?), 500; Carolina Wren, 6; White-breasted Nuthatch, 8; Black-capped Chickadee, 2. Total, 16 species, 678 individuals.—SHERIDAN F. WOOD.

Youngstown, Ohio.—Dec. 25; 8 A.M. to 5 P.M. Partly cloudy; about 12 in. of snow; wind northwest, moderate; temp. 27° to 33°. Walked about 12 miles. Bob-white, 4; Ruffed Grouse, 3; Sparrow Hawk, 1; Barred Owl, 1; Kingfisher, 2; Hairy Woodpecker, 8; Downy Woodpecker, 20; Northern Pileated Woodpecker, 1 (our first hereabouts for nearly three years); Red-bellied Woodpecker, 4; Northern Flicker, 1; Blue Jay, 29; Crow, 3; Meadowlark, 1; Rusty Blackbird, 1 (has been present about two weeks); Goldfinch, 5; Tree Sparrow, 48; Slate-colored Junco, 5; Song Sparrow, 7; Cardinal, 39; Winter Wren, 1; White-breasted Nuthatch, 36; Tufted Titmouse, 11; Chickadee, 41; Golden-crowned;

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Kinglet, 15. Total, 24 species, 287 individuals.—GEORGE L. FORDYCE, VOLNEY ROGERS, C. A. LEEDY and MR. and MRS. WILLIS H. WARNER.

Detroit, Mich.—Dec. 23; Palmer Park (140 acres), 8 to 10 A.M.; Belle Isle Park (700 acres), 1:30 to 4 P.M. Clear; 6 in. of snow; wind southwest, moderate; temp. 8° at start, 26° at finish. Herring Gull, 4; White-winged Scoter, 5; Ring-necked Pheasant, 3; Hairy Woodpecker, 7; Downy Woodpecker, 5; Yellow-bellied Sapsucker, 1; Crow, 3; Northern Shrike, 1; Brown Creeper, 2; White-breasted Nuthatch, 5; Chickadee, 21. Total, 11 species, 57 individuals.—RALPH BEEBE.

South Haven, Mich.—Dec. 24; 9 A.M. to 3 P.M. Four in. of snow; wind west, light; temp. 40°. Herring Gull, 8; Old-squaw, 2; Downy Woodpecker, 10; Blue Jay, 4; Crow, 4; Redpoll, 30; Junco, 33; Song Sparrow, 4; Cardinal, 10; Mockingbird, 1 (identified by one who had seen Mockingbirds in the South); White-breasted Nuthatch, 3; Tufted Titmouse, 1; Black-capped Chickadee, 40. Total, 14 species, 151 individuals.—MRS. A. N. WILLIAMS, MISS RUTH MYHAN, MISS JESSIE NICOL, MRS. M. R. FRESHWATERS, MISS BERTHA SHAW, MR. ARTHUR MOORE and MISS FLORENCE L. GREGORY.

Elkhorn, Lauderdale Lakes and vicinity, Wis.—Dec. 26; 8 A.M. to 12 M.; 1:30 to 3 P.M. Cloudy, raining; ground covered with snow and ice; wind northeast shifting to southeast, strong; temp. 28° to 31°. Mallard, 3; Hairy Woodpecker, 1; Downy Woodpecker, 2; Red-headed Woodpecker, 5; Blue Jay, 2; Crow, 1; Tree Sparrow, 8; Slate-colored Junco, 7; White-breasted Nuthatch, 1; Black-capped Chickadee, 5. Total, 10 species, 35 individuals. Redpolls have been abundant up to day of taking census. A Robin was seen the past week and a Northern Shrike several times.—LULA DUNBAR.

Hartland, Wis.—Dec. 23; 8:30 A.M. to 4 P.M. Clear; 4 in. of snow; wind southwest, light; temp. 8°. Hairy Woodpecker, 1; Blue Jay, 13; Crow, 3; Redpoll, 30; Pine Siskin, 27; Tree Sparrow, 8; Junco, 2; White-breasted Nuthatch, 3; Chickadee, 7. Total, 9 species, 94 individuals.—SUSIE L. SIMONDS.

Manitowoc, Wis.—Dec. 25; 1:30 to 4:30 P.M. Cloudy; 6 in. of snow; wind northeast, light; temp. 20°. Distance covered, 5 miles. Observers together. Herring Gull, 16; Hairy Woodpecker, 1; Downy Woodpecker, 3; Redpoll, 3; Pine Siskin, 2; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 1; Chickadee, 6. Total, 8 species, 33 individuals.—SCOUTMASTER JOHN EGAN, SCOUTS HAROLD GROTH, ED. SCHMIDT and THEODORE KRUEGER.

Waukesha, Wis.—Dec. 25; 9:30 A.M. to 4 P.M. Cloudy; 4 to 6 in. of snow; wind none; temp. 15° to 25°. Observers on same trip. Blue Jay, 10; Crow, 50; Redpoll, 2; Pine Siskin, 25; Tree Sparrow, 25; Slate-colored Junco, 7; Brown Creeper, 1; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 1; Black-capped Chickadee, 4; Golden-crowned Kinglet, 1. Total, 11 species, 127 individuals.—MISS MAY MORGAN and S. PAUL JONES.

St. Peter, Minn.—Dec. 24; 10 A.M. to 12 M.; 1:30 to 5:30 P.M. Partly cloudy; 5 in. of snow; wind northeast, light; temp. 16°; 6-mile tramp—fields, woods and lake. Mallard, 2; Bob-white, 25; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 7; Red-winged Blackbird, 20; Tree Sparrow, 16; Brown Creeper, 2; White-breasted Nuthatch, 12; Red-breasted Nuthatch, 3; Black-capped Chickadee, 22. Total, 12 species, 117 individuals.—HARRY J. LADUE.

Lanesboro, Iowa.—Dec. 25; 8 A.M. to 2 P.M. Very cloudy; 2 in. of snow; wind southeast, brisk; temp. 8°; 13 miles. Red-shouldered Hawk, 1; Long-eared Owl, 1; Screech Owl, 1; Flicker, 1; Prairie Horned Lark, 32; Blue Jay, 7; Crow, 7; Goldfinch, 13; Tree Sparrow, 100; Slate-colored Junco, 1; Northern Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Black-capped Chickadee, 55. Total, 14 species, 223 individuals.—ALBERT WETTER.

Sioux City, Ia.—Dec. 25; 9 A.M. to 12 M. Cloudy; 5 in. of snow; wind northeast, brisk; temp. 9° (Govt.). Birds suffering from cold, raw wind and lack of food. American

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Goshawk, 1; Red-tailed Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 1; Prairie Horned Lark, 1; Redpoll, 12; Pine Siskin, 27; Tree Sparrow, 150; Junco, 60; Cardinal, 6; Brown Creeper, 2; White-breasted Nuthatch, 9; Chickadee, 25; Golden-crowned Kinglet, 1; Bluebird, 4 (2 adults and 2 young). The Bluebirds were in deep woods, but even there their usual food-supply of insects, etc., must have been largely lacking. Total, 15 species, 303 individuals. Bluebird, Golden-crowned Kinglet and Goshawk are unusual here. Seems to be a wave of Goshawks all over Iowa and South Dakota this year.—ARTHUR LINDSEY and WALTER W. BENNETT.

South English, Iowa.—Dec. 27; 8:30 A.M. to 1 P.M. Ground snow-covered; wind south, very light; temp. 10°. Bob-white, 26; Mourning Dove, 2 (quite a few are staying in barnyards here this winter); Hairy Woodpecker, 6; Downy Woodpecker, 12; (Red-bellied?) Woodpecker, 1 (close-barred black and white with red extending from top of head to quite low on neck); Blue Jay, 7; Crow, 14; Slate-colored Junco, 90; Cardinal, 2; White-breasted Nuthatch, 18; Tufted Titmouse, 1 (I have been feeding this individual for some time; it surely answers Reed's description); Black-capped Chickadee, 120; Robin, 1. Total, 13 species, 300 individuals.—JOHN B. SLATE.

Lennox, S. D. (town and adjacent country).—Dec. 23; 9 to 11 A.M.; 2 to 5:30 P.M. Partly cloudy; ground bare except a little snow in shaded spots; wind southwest, light; temp. −2°. Long-eared Owl, 1; Screech Owl, 2; Downy Woodpecker, 1; Horned Lark, 500; American Crow, 150; Redpoll, 156; Greater Redpoll, 1; Lapland Longspur, 10,000 (an uncounted multitude; probably 100,000 are wintering in this vicinity); Tree Sparrow, 165; White-breasted Nuthatch, 4; Chickadee, 1; Brown Creeper, 1. Total, 12 species, 10,982 individuals.—W. B. MALLORY.

Vermillion, S. D. (down Vermillion River 3 miles, back over prairie).—Dec. 22; 1:30 to 4:15 P.M. Clear; ground bare; wind northwest, light; temp. 17°. Hairy Woodpecker, 2; Downy Woodpecker, 5; Crow, 1; Redpoll, 45; Goldfinch, 1; Tree Sparrow, 29; Slate-colored Junco, 6; Cardinal, 1; Brown Creeper, 2; White-breasted Nuthatch, 6; Red-breasted Nuthatch, 1; Chickadee, 36. Total, 12 species, 135 individuals.—W. H. OVER and W. M. WILLY.

Yankton, S. D.—Dec. 28; 9:30 A.M. to 12:30 P.M. Clear; 1½ in. of snow; wind southwest, light; temp. 8°. Hairy Woodpecker, 1; Downy Woodpecker, 3; Flicker, 1; Crow, 3; Red Crossbill, 6; Goldfinch, 8; Lapland Longspur, 15; Tree Sparrow, 100; Slate-colored Junco, 10; Montana Junco, 1; Song Sparrow, 1; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 15. Total, 14 species, 167 individuals.—AUSTIN P. LARRABEE.

Fremont, Neb.—Dec. 26; 7:30 A.M. to 12 M. Clear; 1 in. of snow, with ice (thunder storm and rain the preceding night); wind northwest, cold; temp. 30°. Screech Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 4; Northern Flicker, 1; Prairie Horned Lark, 30; Blue Jay, 1; Crow, 1; Red Crossbill, 8; Goldfinch, 4; Pine Siskin, 13; Tree Sparrow, 45; Brown Creeper, 6; White-breasted Nuthatch, 5; Red-breasted Nuthatch, 7; Chickadee, 35. Total, 15 species, 164 individuals.—MRS. LILY RUEGG-BUTTON.

Omaha, Neb.—Dec. 27. Parks, boulevards and cemeteries, 2 to 4 miles in sparsely wooded ravines, etc., four distinct areas all not over 5 miles from post office. Clear; ground white; light west wind; temp. 30° to 12°. Marsh Hawk, 1; Hairy Woodpecker, 4; Downy Woodpecker, 9; Flicker, 4; Blue Jay, 9; Crow, 21; Purple Finch, 5; Red Crossbill, 2; Redpoll, 86; Song Sparrow, 1; Goldfinch, 46; Pine Siskin, 11; Tree Sparrow, 18; Slate-colored Junco, 165; Towhee, 1; Cardinal, 8; Loggerhead Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 9; Red-breasted Nuthatch, 10; Chickadee, 87. Total, 21 species, 499 individuals.—MILES GREENLEAF, L. O. HORSKY, WM. MARSH and DR. S. R. TOWNE.

Kansas City, Mo. (district between the Country Club and Dodson, in the Swope Park region and in the country between Independence and Atherton).—Dec. 23, 24, 25. Bob-white, 7; Marsh Hawk, 2; Red-tailed Hawk, 6; Rough-legged Hawk, 1; Sparrow

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Hawk, 2; Short-eared Owl, 5; Kingfisher, 1; Hairy Woodpecker, 32; Downy Woodpecker, 31; Red-headed Woodpecker, 1; Red-bellied Woodpecker, 8; Flicker, 34; Prairie Horned Lark, 6; Blue Jay, 46; Crow, 70; Red-winged Blackbird, 1,500; Thick-billed Red-wing, 7 (1 taken); Purple Finch, 13; Red Crossbill, 4; Goldfinch, 200; Pine Siskin, 3; Lapland Longspur, 2; Harris's Sparrow, 10; White-crowned Sparrow, 12; Tree Sparrow, 650; Slate-colored Junco, 750; Song Sparrow, 37; Lincoln's Sparrow, 1; Swamp Sparrow, 2; Fox Sparrow, 5; Cardinal, 59; Bohemian Waxwing, 2 (one taken); Cedar Waxwing, 8; Carolina Wren, 34; Winter Wren, 2; Brown Creeper, 21; White-breasted Nuthatch, 4; Tufted Titmouse, 45; Chickadee, 90; Golden-crowned Kinglet, 12; Robin, 8; Bluebird, 7. Total, 42 species, 3,740 individuals.—RALPH HOFFMANN, CHARLES TINDALL, WM. MICHAELS and HARRY HARRIS.

Marionville, Mo.—Dec. 25; entire day. Snow on north slopes; wind southeast, strong. Area covered, 15 miles. Wilson's Snipe, 4; Bob-white, 40; Red-tailed Hawk, 5; Swainson's Hawk, 2; Kingfisher, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Prairie Horned Lark, 8; Blue Jay, 7; Crow, 12, Meadowlark, 1; Goldfinch, 5; Harris's, Sparrow, 2; Tree Sparrow, 1; Slate-colored Junco, 200; Song Sparrow, 4; Swamp Sparrow, 12; Fox Sparrow, 2; Cardinal, 15; Winter Wren, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 25; Chickadee, 18; Bluebird, 1. Total, 26 species, 397 individuals.—JOHNSON NEFF.

Marshall, Mo.—Dec. 23; 9 A.M. to 2 P.M. Overcast with thick haze; wind variable, light; temp. 30°. Distance covered, 8 miles. Marsh Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 3; Kingfisher, 1; Hairy Woodpecker, 7; Downy Woodpecker, 17; Red-bellied Woodpecker, 7; Flicker, 2; Blue Jay, 15; American Crow, 36; Red-winged Blackbird, 1; Meadowlark, 1; Purple Finch, 11; Goldfinch, 48; Pine Siskin, 15 (the second time in 16 years); Tree Sparrow, 215; Slate-colored Junco, 45; Song Sparrow, 3; Cardinal, 14; Carolina Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 14; Carolina Chickadee, 17. Total, 24 species, 479 individuals.—J. A. LAUGHLIN.

Pleasant Hill, Mo.—Dec. 25; 8 A.M. to 12 M. Partly cloudy; brisk, chilly east wind; small patches of snow on ground. Brushy fields and small groves. Bob-white, 5; American Rough-legged Hawk, 2; Red-tailed Hawk(?), 1; Hairy Woodpecker, 2; Downy Woodpecker, 12; Red-bellied Woodpecker, 3; Flicker, 11; Blue Jay, 25; American Crow, 40; Purple Finch, 20; Goldfinch, 18; Tree Sparrow, 40; Chipping Sparrow, 2; Field Sparrow, 1; Slate-colored Junco, 60; Song Sparrow, 9; Cardinal, 27; Brown Creeper, 3; White-breasted Nuthatch, 2; Tufted Titmouse, 25; Black-capped Chickadee, 40; Bluebird, 3. Total, 22 species, 351 individuals.—A. E. SHIRLING.

Austin, Texas. (west from town on Mesquite prairie, south of town on Colorado River and in cedar brakes along Barton Creek).—Dec. 25; 7:30 A.M. to 5:30 P.M. Heavy fog up to 10:30 A.M., partly clear rest of day; light south wind in afternoon; temp. about 60°. Distance traveled, about 12 miles. Killdeer, 12; Bob-white, 3; Mourning Dove, 16; Inca Dove, 11; Turkey Vulture, 20; Black Vulture, 75; Cooper's Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 5; Barn Owl, 2; Hasbrouck's Screech Owl, 1; Burrowing Owl, 1; Belted Kingfisher, 5; Southern Downy Woodpecker, 2; Texan Woodpecker, 3; Yellow-bellied Sapsucker, 1; Red-bellied Woodpecker, 5; Golden-fronted Woodpecker, 2; Northern Flicker, 21; Phœbe, 3; Blue Jay, 31; American Crow, 11; Meadowlark, 200; Arkansas Goldfinch, 600; Pine Siskin, 7; Vesper Sparrow, 7; Savannah Sparrow, 3; Lark Sparrow, 90; Harris's Sparrow, 200; White-crowned Sparrow, 1; Field Sparrow, 36; Slate-colored Junco, 200; Black-throated Sparrow, 2; Rock Sparrow, 6; Song Sparrow, 7; Lincoln's Sparrow, 18; Fox Sparrow, 9; Towhee, 10; Cardinal, 90; Cedar Waxwing, 5,000; Loggerhead Shrike, 2; Myrtle Warbler, 160; Sprague's Pipit, 36; Mockingbird, 90; Brown Thrasher, 1; Cañon Wren, 12; Carolina Wren, 48; Texas Bewick's Wren, 6; House Wren, 7; Winter Wren, 4; Brown Creeper, 1; Sennett's Titmouse, 28; chickadee sp., 42; Golden-crowned Kinglet, 4; Ruby-crowned Kinglet, 30;

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Wood Thrush,* 1; Gray-cheeked Thrush*, 1; Olive-backed Thrush*, 2; Robin, 5,000; Bluebird, 60. Total, 60 species, 12,253 individuals. All numbers above 50 are estimates. Cedar Waxwings, Robins and Arkansas Goldfinches were too numerous to attempt to count.—W. S. TAYLOR and W. H. WARREN.

Taylor, Tex.—Dec. 25; 10:30 A.M. to 1:30 P.M. Cloudy to partly cloudy; ground bare; wind southwest, light to moderate; av. temp. 71°. Woodcock, 4; Killdeer, 4; Texas Bob-white, 1; Mourning Dove, 14; Turkey Vulture, 11; Black Vulture, 9; Marsh Hawk, 2; Red-shouldered (?) Hawk, 1; Sparrow Hawk, 3; Burrowing Owl, 1; Road-runner, 1; Hairy Woodpecker, 1; Red-bellied Woodpecker, 1; Flicker, 4; Phœbe, 1; Crow, 1; Meadowlark and Western Meadowlark, together, 40; Goldfinch, 25; Vesper Sparrow, 1; Grasshopper Sparrow, 22; Harris's Sparrow, 30; Slate-colored Junco, 20; Song Sparrow, 65; Lincoln's Sparrow, 8; Cardinal, 5; Cedar Waxwing, 3; White-rumped Shrike, 2; Myrtle Warbler, 26; Sprague's Pipit, 1; Mockingbird, 12; Texas Wren, 1; Western House Wren, 1; Plumbeous Chickadee, 5; Robin, 88; Bluebird, 14. Total, 36 species, 428 individuals. Observers worked conjointly.—MR. and MRS. H. TULLSEN.

Bozeman, Mont.—10 A.M. to 2:30 P.M. Cloudy, with occasional light siftings of dry snow; snow 18 in. deep; light breeze from northwest; temp. −2°. Grouse, 1; Batchelder's Woodpecker, 1; Magpie, 13; Black-headed Jay, 1; Western Crow, 1; Redpoll, 18; Western Tree Sparrow, 12; Mountain Song Sparrow, 4; Bohemian Waxwing, 50; Long-tailed Chickadee, 8; Mountain Chickadee, 1. Total, 11 species, 110 individuals.—NELSON LUNDWALL.

Meridian, Idaho (irrigated farm lands).—Dec. 22; 8:27 A.M to 4:10 P.M. Clear until 3 P.M.; 1 in. of snow; wind southeast, light, increasing to strong; temp. 28° to 32°; 14 miles. Bob-white, 17; Chinese Pheasant, 53; Marsh Hawk, 7; hawk sp. (large), 9; hawk sp. (small), 2; Long-eared Owl, 30; Short-eared Owl, 1; Western Horned Owl, 2; Red-shafted Flicker, 7; Pallid Horned Lark, 98; Magpie, 219; Blackbird (some had red wings, and probably some Brewer's Blackbirds were with them), 396; Western Meadowlark, 23; House Finch, 141; Pale Goldfinch, 31; Gambel's Sparrow, 13; Shufeldt's Junco, 221; Merrill's Song Sparrow, 71; White-rumped Shrike, 2; Western Tule Wren, 1; Long-tailed Chickadee, 3. Total, 21 species, 1,347 individuals. Dec. 19, Snowy Owl, 1. First seen Nov. 23, and often between times. Dec. 21, Batchelder's Woodpecker, 1.—ALEX. STALKER.

Denver, Colo.—11 A.M. to 1 P.M. Cloudy, snowing; ground with 4 in. of snow; wind north, light; temp. 14° to 18°. Ring-necked Pheasant, 42; Long-eared Owl, 3; Orange-shafted Flicker, 3; Desert Horned Lark, 15; Magpie, 50; Red-winged Blackbird, 8; Meadowlark, 3; House Finch, 25; Redpoll, 1; Tree Sparrow, 30; Shufeldt's Junco, 1; Pink-sided Junco, 2; Gray-headed Junco, 2; Mountain Chickadee, 4. Total, 14 species, 189 individuals.—W. H. BERGTOLD.

Red Butte and Marron, Colo.—10 A.M. to 3 P.M. Cloudy; a foot of snow; temp. 32°. Golden Eagle, 1; Hairy Woodpecker subsp., 2; Downy Woodpecker subsp., 1; two species of jays, 8; Dipper, 1; American Pipit, 30; Rocky Mountain Creeper, 1; Mountain Chickadee, 3. Total, 9 species, 67 individuals.—MRS. IDA L. LOGUE.

Camp Verde, Ariz. (elevation 3,100 feet).—Dec. 22; 10 A.M. to 3 P.M. Clear; ground bare; wind southwest, light; temp. 50°. Great Blue Heron, 3; Killdeer, 2; Gambel's Quail, 50; Mourning Dove, 1; Sharp-shinned Hawk, 1; American Goshawk, 1; Western Red-tail, 1; Desert Sparrow Hawk, 1; Rocky Mountain Hairy Woodpecker, 1; Red-naped Sapsucker, 1; Gila Woodpecker, 2; Red-shafted Flicker, 1; Pallid Horned Lark, 20; Western Meadowlark, 20; Brewer's Blackbird, 30; Arkansas Goldfinch, 10; Western Vesper Sparrow, 5; White-crowned Sparrow, 20; Intermediate Junco, 50; Sage Sparrow, 20; White-rumped Shrike, 1; Curve-billed Thrasher, 1; Rock Wren, 1; Cañon Wren, 1;

*We doubt these three thrushes, especially the Gray-cheeked, as they winter so far south of the United States.—Ed.

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Western House Wren, 1; Bridled Titmouse, 4; Mountain Chickadee, 2; Lead-colored Bush-Tit, 1; Ruby-crowned Kinglet, 6; Western Robin, 2; Western Bluebird, 30; Mountain Bluebird, 1. Total, 32 species, 291 individuals.—OSCAR F. SCHAEFER.

Seattle, Wash.—9:30 to 11 A.M.; 1:50 to 4:30 P.M. Clear; ground bare; light north wind; temp. 40°, afternoon, 34°. Residence section near Lake Washington and along boulevards. Observers together. Herring Gull, 13; Mallard, 2; Coot, 35; Killdeer, 5; California Quail, 7; Gairdner's Woodpecker, 1; Northwestern Flicker, 12; Stellar's Jay, 35; Western Crow, 12; Brewer's Blackbird, 12; Pine Siskin, 1; Oregon Junco, 262; Rusty Song Sparrow, 41; Oregon Towhee, 18; Cedar Waxwing, 55; Seattle Wren, 2; Western Winter Wren, 1; Oregon Chickadee, 55; Western Robin, 126; Varied Thrush, 1. Total, 21 species, 708 individuals.—MRS. J. I. COLWELL and MR. J. W. CLISE, JR.

Portland, Ore.—Dec. 26; 9:30 A.M. to 5 P.M. Ground bare; easterly wind, light; av. temp. 34°. Herring Gull, 111; Glaucus-winged Gull, 1; Mallard, 14; Baldpate, 40; Green-winged Teal, 42; Pintail, 8; Canvasback, 2; Great Blue Heron, 1; Wilson's Snipe, 8; Killdeer, 8; Oregon Ruffed Grouse, 1; Ring-necked Pheasant, 4; Western Goshawk, 1; Cooper's Hawk, 1; Kingfisher, 3; Gairdner's Woodpecker, 1; Red-shafted Flicker, 13; Western Crow, 27; Western Evening Grosbeak, 63; Willow Goldfinch, 1; Oregon Junco, 133; Rusty Song Sparrow, 17; Yakutat Fox Sparrow, 4; Oregon Towhee, 11; Vigors's Wren, 2; Oregon Chickadee, 44; Chestnut-backed Chickadee, 15; Ruby-crowned Kinglet, 4; Western Robin, 2; Varied Thrush, 8. Total, 30 species, 568 individuals.—W. D. STRONG, TOM MCCAMANT and W. L. BREWSTER, JR.

Portland, Ore. (Mt. Tabor, Reed College, Crystal Springs, Riverview Cemetery, Multnomal, and Washington Park—all in the city of Portland. Trip made in auto with frequent stops to note birds). Dec. 26; 9:30 A.M .to 1:30 P.M.; 2:30 to 4:30 P.M. Clear and cold; brisk east wind; ground bare; temp. 32° to 36°. Glaucous-winged Gull, 17; California Gull, 7; Hooded Merganser, 2; Mallard, 50; Green-winged Teal, 3; Canvasback, 6; Scaup, 6; Scoter, 6; Snow Goose, 2; Canada Goose, 3; Wilson's Snipe, 2; Ring-necked Pheasant, 3; Desert Sparrow Hawk, 1; Belted Kingfisher, 1; Red-shafted Flicker, 1; Crow, 1; Rusty Song Sparrow, 16; White-crowned Sparrow, 1; Golden-crowned Sparrow, 2; Oregon Junco, 33; Oregon Towhee, 5; Western Robin, 23; Varied Thrush, 5. Total, 24 species, 232 individuals.—MARY E. RAKER, HELEN D. TONSETH and MARGARETHE E. WOLLE.

Salem, Ore.—Dec. 26; 9 A.M. to 2:30 P.M. Ground bare; wind, northeast to northwest. Ring-necked Pheasant, 1; Western Redtail, 1; Kennicott's Screech Owl, 2; Kingfisher, 1; Gairdner's Woodpecker, 2; Northwestern Flicker, 11; California Jay, 10; Western Crow, 9; Meadowlark, 1; Brewer's Blackbird, 1; Redpoll, 10; Willow Goldfinch, 3; Pine Siskin, 23; Golden-crowned Sparrow, 19; Oregon Junco, 205; Rusty Song Sparrow, 21; Oregon Towhee, 8; Seattle Wren, 2; Oregon Chickadee, 28; Chestnut-backed Chickadee, 8; Slender-billed Nuthatch, 2; California Creeper, 1; Western Robin, 20; Western Bluebird, 6. Total, 24 species, 399 individuals.—RUTH and LOUIS STEWART, and FAY and FERN WELLS.

Escondido, Cal.—Dec. 25; 7:30 A.M. to 2:30 P.M. Clear; cold northwest wind; temp. 37°. 10 miles by buggy; 5 miles 'cross country. Including birds seen Dec. 22 and 23. Killdeer, 16; Valley Quail, 60; Mourning Dove, 32; Sharp-shinned Hawk, 1; Cooper's Hawk, 2; Western Red-tailed Hawk, 1; Desert Sparrow Hawk, 4; Barn Owl, 2; California Screech Owl, 1; Burrowing Owl, 3; Roadrunner, 1; Red-shafted Flicker, 5; Black-chinned Hummingbird, 5; Arkansas Kingbird, 6; Say's Phœbe, 9; Black Phœbe, 6; California Horned Lark, 73; jay sp., 2; Red-winged Blackbird subsp., 5; Western Meadowlark, 100; Brewer's Blackbird, 75; House Finch, 173; Willow Goldfinch, 15; (Oregon?) Vesper Sparrow, 20; Western Lark Sparrow, 130; White-crowned Sparrow, 120; Western Chipping Sparrow, 134; Junco subsp., 18; Bell's Sparrow, 5; San Diego Song Sparrow, 3; Anthony's Towhee, 12; Cedar Waxwing, 24; California Shrike, 7; Audubon's Warbler,

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78; Western Mockingbird, 10; Pasadena Thrasher, 3; Western House Wren, 2; Western Robin, 375; Western Bluebird, 150. Total, 40 species, 1,700 individuals.—FRED GALLUP.

San Francisco, Cal. (Golden Gate Park and Lake Merced).—Dec. 25; 8 A.M. to 5:30 P.M. Clear; light west wind; temp. 40° to 50°. Observers together. Western Grebe, 8; Eared Grebe, 50; Pied-billed Grebe, 20; Common Loon, 1; California Murre, 1; Glaucous-winged Gull, 3; Western Gull, 150; Herring Gull, 105; Mallard, 310; Baldpate, 73; Green-winged Teal, 130; Shoveler, 220; Canvasback, 1,580; Lesser Scaup, 128; Bufflehead, 12; White-winged Scoter, 35; Surf Scoter, 1; Ruddy Duck, 485; Great Blue Heron, 3; Coot, 1,735; Killdeer, 130; Snowy Plover, 24; California Quail, 60; Sharp-shinned Hawk, 1; Cooper's Hawk, 2; Western Goshawk, 1; Western Red-tailed Hawk, 3; Northern Pigeon Hawk, 1; Sparrow Hawk, 2; Western Kingfisher, 1; Red-shafted Flicker, 10; Anna's Hummingbird, 15; Black Phœbe, 8; California Horned Lark, 12; California Jay, 2; Bicolored Blackbird, 320; Western Meadowlark, 160; Brewer's Blackbird, 20; California Purple Finch, 1; Green-backed Goldfinch, 1; House Finch, 170; Bryant's Marsh Sparrow, 18; Gambel's and Nuttall's Sparrows, 1,500; Golden-crowned Sparrow, 7; Sierra Junco, 25; Santa Cruz Song Sparrow, 125; Yakutat Fox Sparrow, 3; San Francisco Towhee, 2; California Shrike, 5; Hutton's Vireo, 1; Audubon's Warbler, 850; Townsend's Warbler, 5; Salt Marsh Yellowthroat, 5; American Pipit, 176; Vigors's Wren, 4; Red-breasted Nuthatch, 2; Santa Cruz Chickadee, 25; Coast Bush-Tit, 50; Ruby-crowned Kinglet, 12; Sitkan Kinglet, 4; Dwarf Hermit Thrush, 30; Western Robin, 126; Varied Thrush, 8; Pale Varied Thrush, 1. Total, 65 species, 8,979 individuals. On Dec. 23 and 24, the following also: Bonaparte's Gull, 3; Red-breasted Merganser, 1; Pintail, 2; Virginia Rail, 1; Red-backed Sandpiper, 40; Western Sandpiper, 1; Say's Phœbe, 2; Golden-crowned Kinglet, 2. Grand total for 3 days, 73 species. —HAROLD E. HANSEN, WALTER A. SQUIRES, C. R. THOMAS and JESSE KLAPP.

Los Angeles, Cal. (Los Angeles Harbor, San Fernando Valley, Benedict Canyon, Eagle Rock Valley, Silver Lake, Nigger Slough, Sunset Beach, Eaton Canyon, Hollenbeck Park).—Dec. 27; 6:30 A.M. to 5:30 P.M. Cloudy after 10 A.M., misty in P.M.; wind northeast, light; temp. 28° to 68°. Observers in six parties as indicated, each covering different territory. Western Grebe, 4; Eared Grebe, 8; Pied-billed Grebe, 10; Red-throated Loon, 1; Glaucous-winged Gull, 6; Western Gull, 280; California Gull, 34; Ring-billed Gull, 40; Short-billed Gull, 3; Forster's Tern, 5; Farallon Cormorant, 4; Baird's Cormorant, 9; California Pelican, 21; Mallard, 1; Baldpate, 7; Cinnamon Teal, 4; Shoveler, 1; Pintail, 5; Redhead, 2; Canvasback, 212; Scaup, 1; White-winged Scoter, 1; Ruddy Duck, 21; Great Blue Heron, 13; American Egret, 11; Black-crowned Night Heron, 4; Sora, 1; Coot, 122; Northern Phalarope, 4; Wilson's Snipe, 17; Least Sandpiper, 12; Red-backed Sandpiper, 19; Western Sandpiper, 41; Sanderling, 34; Greater Yellowlegs, 1; Hudsonian Curlew, 13; Black-bellied Plover, 3; Killdeer, 53; Snowy Plover, 13; Valley Quail, 100; Mourning Dove, 21; Turkey Vulture, 14; Marsh Hawk, 2; Western Red-tailed Hawk, 2; Bald Eagle, 1; Desert Sparrow Hawk, 18; Barn Owl, 1; Burrowing Owl, 8; Roadrunner, 3; Kingfisher, 1; Willow Woodpecker, 1; Nuttall's Woodpecker, 2; Red-naped Sapsucker, 1; California Woodpecker, 7; Red-shafted Flicker, 40; Anna's Hummingbird, 28; Cassin's Kingbird, 11; Say's Phœbe, 12; Black Phœbe, 39; California Horned Lark, 400; California Jay, 28; Western Crow, 8; San Diego Redwing, 1,125; Western Meadowlark, 194; Arizona Hooded Oriole, 1 (stray, living in a private yard); Brewer's Blackbird, 1,161; House Finch, 871; Willow Goldfinch, 200; Green-backed Goldfinch, 2,700; Western Savannah Sparrow, 9; Large-billed Sparrow, 70; Belding's Sparrow, 119; Gambel's Sparrow, 391; Golden-crowned Sparrow, 29; Thurber's Junco, 677; Rufous-crowned Sparrow, 1; San Diego Song Sparrow, 78; Thick-billed Fox Sparrow, 5; Towhee (*P. maculatus* subsp.), 15; Anthony's Towhee, 87; Tree Swallow, 3; California Shrike, 33; Hutton's Vireo, 5; Audubon's Warbler, 1,306; Townsend's Warbler, 1; Pacific Yellowthroat, 9; Pipit, 136; Dipper, 2; Western Mock-

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ingbird, 84; Pasadena Thrasher, 4; Rock Wren, 1; San Diego Wren, 6; Western House Wren, 2; Tule Wren, 27; Plain Titmouse, 3; Bailey's Mountain Chickadee, 5; California Bush-Tit, 80; Wren-Tit, 11; Ruby-crowned Kinglet, 16; Western Gnatcatcher, 2; Black-tailed Gnatcatcher, 4; Dwarf Hermit Thrush, 15; Western Robin, 177; Western Bluebird, 95; Mountain Bluebird, 28. Total, 105 species, 8,746 individuals.—MRS. F. T. BICKNELL and MRS. ROBERT FARGO; MISS HELEN S. PRATT and MRS. W. L. BROWNLEE; MR. L. E. WYMAN; DR. E. A. DIAL and MRS. WARREN MARTZ; MR. ALFRED COOKMAN; and MR. JOHN B. FREDERICK.

Notes on the Plumage of North American Birds

FORTY-SECOND PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Crissal Thrasher (*Toxostoma crissale*, Fig. 1).—As with other Thrashers, the sexes of this species are alike in color and the seasonal changes in color are due only to fading and wear. The summer plumage, aside from being more frayed, is more sandy in tone than that of winter.

The juvenal (nestling) plumage closely resembles that of the adult, but is slightly paler below. The succeeding, or first winter plumage, is not distinguishable from that of the adult.

The Crissal Thrasher ranges from western Texas to the Pacific coast northward as far as southern Utah, and southward into northern Sonora and Lower California. No races of it have been described.

California Thrasher (*Toxostoma redivivum*, Fig. 2).—The above remarks concerning the plumage of the Crissal Thrasher apply also to this species. This bird, however, has a more restricted range, being found only in California and northern Lower California. Our figure (Fig. 2) is unfortunately too brown above and the ventral region and crissum are too deeply colored, faults of reproduction, which apparently cannot at times be avoided.

Leconte's Thrasher (*Toxostoma lecontei*, Fig. 3).—In general tone of color Leconte's Thrasher resembles Bendire's Thrasher. It is, however, even paler than that species (and hence is the palest of all the Thrashers) and the underparts are unspotted.

So far as the adults are concerned, the slight color changes in the plumage of this species are the same as those of other Thrashers. The juvenal plumage, however, is somewhat more fulvous both above and below than that of the mature bird.

Two races of this species are recognized, *Toxostoma lecontei lecontei* to which the name Leconte's Thrasher is restricted, and *Toxostoma lecontei arenicola*, the Desert Thrasher, a slightly darker form. The first inhabits the deserts of southern California, southern Nevada and southward into northern Sonora, and to San Felipe Bay in Lower California. The second is said to be confined to the deserts of Lower California lying between latitudes 28° and 30°.

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Bird-Lore's Advisory Council

WITH some slight alterations, we reprint below the names and addresses of the ornithologists forming BIRD-LORE'S 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with the objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the sixteen years that it has been in operation fully equals our expectations. From both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience.

It is requested that all letters of inquiry to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

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OHIO.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.
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VIRGINIA.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.
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WEST VIRGINIA.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.
WISCONSIN.—H. L. Ward, Public Museum, Milwaukee, Wis.

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ONTARIO, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.
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QUEBEC.—E. D. Wintle, 189 St. James Street, Montreal, Canada.

MEXICO

E. W. Nelson, Biological Survey, Dept. of Agr., Washington, D. C.

WEST INDIES

C. B. Cory, Field Museum, Chicago, Ill.

GREAT BRITAIN

Clinton G. Abbott, Rhinebeck, New York.

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Winter Notes

Evening Grosbeak in Pittsfield, Mass.

It may be of interest to you, and as a sequel to "My Experience with Evening Grosbeaks," a story that I sent you last Spring, I send you the following facts: The Evening Grosbeaks visited my window until the 20th of May this year, feeding from the trays and from my hand. Imagine my surprise to see six Evening Grosbeaks, four female and two male, this morning (Nov. 19, 1916), about 9.30 o'clock in the same trees that they were in the habit of alighting in last Spring, one bird flew down on to the piazza roof. I immediately put out the trays with seed but all flew away and did not return during the day. I was in hopes that they would return in the winter time, but did not expect them so early. Last Sunday we had a snow storm, about six inches fell on the mountains about this city, I wonder if the birds followed the storm, possibly it is a new record of early appearance.—CHARLOTTE M. BARROWS, 113 *Appleton Ave., Pittsfield, Mass.*

[The Berkshire Evening Eagle, published at Pittsfield December 26, 1916, has this additional note on Mrs. Barrows' Evening Grosbeaks:

"About three weeks ago, six or seven Evening Grosbeaks showed up at the Barrows home, but Mrs. Barrows had not expected them and there was no food tray out in the accustomed place. After prospecting a while, the birds disappeared and did not reappear until very recently. Last year there were 42 in the flock and this year about 26 have put in an appearance. They are very tame and will eat out of Mrs. Barrows' hand. They apparently know her and do not manifest any trepidation when she appears at the window. On the contrary they crowd up close to the window to get their food. Let a stranger enter the room, however, and draw near to the window and the birds will flutter away quickly to a safe distance and reconnoiter for a while."—ED.]

Evening Grosbeaks in Fall River, Mass.

The Evening Grosbeaks have again arrived in Fall River, Mass., for their fourth visit, the other years being 1911, 1914, 1916.

The first one was seen on December 11; but their very distinctive call was heard on the tenth. This is the earliest date on which they have ever been seen in Fall River, as in the other years they have not been seen until February. Last year, when they were not reported to BIRD-LORE, they were seen for the first time on March 13, but were seen many times from that date until early in May, as many as fifteen at a time. This year the flock is even larger, eighteen or nineteen having been counted, with more males in full plumage than usual, so it is a beautiful sight.

They feed occasionally in the box elder trees, but also seem to find something on the ground they like, not as yet coming for the sun-flower seeds which have been put out.—ELLEN M. SHOVE, 446 *Highland Ave., Fall River, Mass.*

The Evening Grosbeak in New York City

Walking along the path by the upper lake near the Botanical Garden Museum, on the morning of Nov. 23, of this year, I passed almost under three male Evening Grosbeaks. They were feeding in an ironwood tree on which a few old seeds still remained, and allowed me to pass not more than four or five paces away. While looking at and admiring the birds, which I had been acquainted with for many

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years in the West, the Assistant Director, Dr. Murrill, came by and I called his attention to them. He at once pronounced the birds to be similar to eight he had seen a week earlier in the Garden at no great distance from this point, and feeding on the same species of tree. This is the earliest date, I believe, recorded for their far eastern range, and I can find only four other birds mentioned in the past as having been seen within the city limits. Up to the time of writing this note, Dec. 25, I have seen or heard nothing more of these strikingly showy visitors.—R. S. WILLIAMS, *Administrator Assistant, New York Botanical Garden.*

Evening Grosbeak in Pennsylvania

On the morning of November 30, 1916, I went for a walk along Stony Creek, carrying with me a quantity of suet to put in the wire cages at several feeding-stations; and, while busy filling one, I heard an entirely new bird-note, and discovered in a nearby tree a bird which was a stranger in this locality. Soon two others joined this one, and the three came into a honeysuckle vine within a few feet, and I immediately identified them as female Evening Grosbeaks. They remained near me for a half-hour or more, so my identification was positive. They were eating honeysuckle berries, and berries from the poison ivy. The cracking of the seeds could be heard at a distance.—HARRIET E. WALLACE, *Norristown, Pa.*

Pine Grosbeak in Illinois

If I am rightly informed, I understand that the Pine Grosbeak has not been recorded in this vicinity. I am therefore delighted to place the female Pine Grosbeak on record. I first saw same this morning of Nov. 20. It fluttered from a tree to my feet, and again very unhurriedly back to the branches.

It has since been staying almost continuously in a thicket of vines, amongst which grow an abundance of matrimony-vine berries. The bird feeds with great relish upon these berries, seems very friendly and contented.

This bird was verified by Mr. Paul B. Riis, of this city and others.—(Mrs.) ROBERT LATHROP, 1231 *National Ave., Rockford, Illinois.*

A Practical Solution of the Sparrow Problem

I have been fighting the English Sparrow for several years, for the reason that he has been fighting the other birds which visit our feeding station, driving them off and consuming all of the food. I noticed that the English Sparrow liked the seeds and grains best of all the foods which I put out. I also noticed that when there was no grain in the station and there was grain thrown out for the poultry the English Sparrow left the station and went to the chicken-yard, and the other birds had a few minutes to snatch a lunch. So, although I heartily disapprove of him, I am feeding him grain on a bare space of ground about fifty feet away from the feeding station and to my delight the Chickadee, Nuthatch, Juncos, Woodpeckers and Tree Sparrows are left in peace. I put in the station sunflower seeds, suet, bits of apple crumbs, and doughnut scraps, which I make by tossing crumbs of all kinds into boiling fat and skimming them off as soon as they brown. For the English Sparrow I throw oats and cracked corn and, although I do it grudgingly, I see no better way out.—(Mrs.) EDITH H. SMITH, *Cornwall, N. Y.*

Acadian Chickadee at Branchport, N. Y.

During the last days of November, 1916, an Acadian Chickadee presented his appearance here in our woodsy village, and I observed him daily until December 22, when he vanished.

This is the first time that I have noted the Acadian Chickadee in this section during a period of over twenty-six years' active bird observation, therefore it is of noteworthy occurrence.

It proved to be of a rather independent

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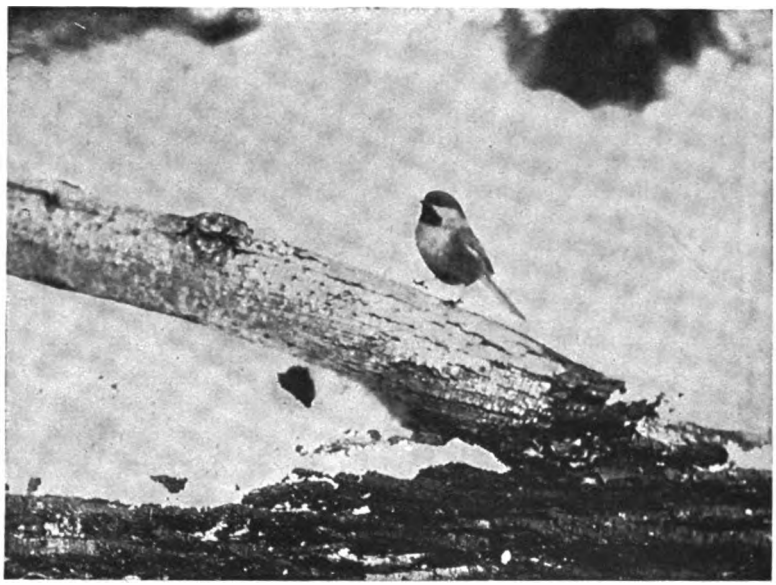
disposition, being observed daily all alone in various parts of the town, besides being a regular patron of my suet feeding stool and bird winter-garden on the porch roof.

While Chickadees will venture to feed from my hand if offered seeds of sunflowers, the Acadian could not thus be tempted; in fact, seeds did not appeal to his taste, but he was partial to nutmeats; while suet always lured him close to camera, and I was enabled to secure several photographs.

However, one had to be alert in order to get a snap, for the Acadian was very active and seldom lingered at the suet, preferring to break off a crumb and hastily flit to a nearby tree to devour it.

The rather plaintive notes of this bird were so different from those of the ordinary Chickadee that its presence could be readily distinguished, even if not seen, as it flitted around in the tree tops.—CLARENCE F. STONE, *Branchport, N. Y.*



ACADIAN CHICKADEE
Photographed by C. F. Stone

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Book News and Reviews

BIRD FRIENDS. A Complete Bird Book for Americans. By GILBERT H. TRAFTON. Houghton Mifflin & Co., Boston and New York. 12mo. xviii+330 pages; plates and cuts.

To write "a complete bird-book for Americans" in three hundred and odd pages is obviously an ambitious undertaking, and if Mr. Trafton fails to accomplish a task which we believe most authors would consider impossible, he at least comes as near success as his space permits.

His book, in brief, is a practical dissertation on the bird's place in nature and its relations with man. He writes of the migrations, songs, nesting habits, colors, and plumage of birds, gives useful suggestions on methods of study in the field, including bird-study with a camera, where we regret to see he does not mention the importance of a blind if one would secure not only pictures but intimate observations as well.

This more purely ornithological matter occupies the first sixty-two pages of the book. Pages 63 to 173 are devoted to economic ornithology with chapters on the food of birds, their value to man, changes in the numbers of birds, natural enemies of birds, bird enemies introduced by man (in which the cat is arraigned at length), and man as an enemy of birds.

Having stated the value of birds and the various destructive agents which are arrayed against them, Mr. Trafton devotes the balance of his book to an account of the various agencies which directly or indirectly are working for bird-protection.

He writes in detail of the activities of the National Association of Audubon Societies, the national Government and several representative bird clubs, and gives instructions in regard to erecting bird-houses, feeding-stations, planting, etc.

His final chapter on methods of teaching bird-study in the schools is one of the most valuable in the book. Mr. Trafton has had wide experience in this field and his outlines of study for the first to eighth grades contain much original and suggestive material.—F. M. C.

A YEAR WITH THE BIRDS. By ALICE E. BALL. With 56 colored plates by Robert Bruce Horsfall. Gibbs & Van Vleck, New York City. 1916. 8vo. 191 pages.

This book is an unusual and most attractive combination of ornithology, poetry and art. It treats in verse of the more prominent characteristics of color, form, or song of over fifty common birds arranged according to their season.

We have first, therefore, winter birds which in turn are followed by those of spring, summer and autumn.

It is believed by the author, and no doubt with truth, that through the medium of rhyme and rhythm she can reach the child mind more effectively than if the same information were presented in prose. She exhibits excellent judgment in the selection of her material and no small degree of skill in giving it an attractive literary setting. Her efforts to picture the bird in nature are well seconded by Mr. Horsfall whose drawings depict the subjects chosen in their haunts and, at times, notably with the Chickadee and Tree Sparrow, reveal genuine sentiment.—F. M. C.

AUDUBON POCKET BIRD COLLECTION. Case No. 1. Permanent Resident and Winter Visitant Land Birds of the northeastern United States (63 figures). Case No. 2. Winter Visitant and Permanent Resident Land Birds of southeastern United States (82 figures). Arranged by Frank M. Chapman. Drawn by E. J. Sawyer, for the National Association of Audubon Societies. Price, 10 cents each.

The National Association of Audubon Societies has recently issued two handsome pocket folders of colored pictures of birds which embody a new idea in bird-study. Each folder represents a museum exhibition case in which the birds are

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arranged in shelves. Without, therefore, appearing to be overcrowded, it has been possible to get the greatest number of birds in the smallest amount of space, and the student can consequently place in his pocket a two-sheet folder on which are figured all the land birds he may usually expect to find between November and March.

The figures are small but accurately colored and the fact that all those in the same section of the case are *drawn to the same scale* makes them of more value in field identification (where size is of the first importance) than illustrations in books where the scale constantly changes.

The plan for these novel bird collections, which originated with Dr. Chapman and is based on his seasonal exhibits of local birds in the American Museum, has been admirably carried out by Mr. Sawyer.

These folders will be of great assistance to teachers, and form a part of the equipment given this year to every member of a Junior Audubon Class. Others may obtain them for 10 cents each by addressing the office of the National Association at 1974 Broadway, New York City. A reduction on quantities for the use of Audubon Societies, bird clubs and other organizations is made.—T. G. P.

The Ornithological Magazines

THE CONDOR.—The November number of 'The Condor,' containing five general articles, completes Volume XVIII. The first paper entitled 'Some Results of a Winter's Observations in Arizona,' by A. B. Howell, is based on field-work in 1915–16, on Rillito Creek, near Tucson. This locality is classic ground ornithologically but most of the previous work in the region has been done in summer. The more important notes include the finding of two Audubon's Caracaras—the first reported from the state for ten years, the determination of the form of Junco occurring in winter, the absence of the Sage Sparrow and the Rufous-winged Sparrow, and the first record of the occurrence of the Swamp Sparrow in Arizona.

In the third and concluding part of 'Meeting Spring Half Way,' Mrs. Bailey gives an account of the birds found about Brownsville, Texas, and on the trip back to Corpus Christi, Texas, and the changes noted in the bird-life and vegetation due to migration and the advance of spring during an absence of two weeks.

Pemberton contributes a brief article, with two illustrations, on the 'Nesting of the Le Conte Thrasher,' between Cabegon and Whitewater, in Riverside County, Calif., in 1916; and Quillin and Holleman a note on the finding of five nests of the San Domingo Grebe in Bexar County about ten miles south of San Antonio, Texas.

'More Summer Birds for San Francisco County,' by Ray, is a supplement to a paper on the same subject which appeared in 'The Condor' in 1906. The number of species has now been increased from 44 to 100, mainly as a result of observations in the southeastern part of the county in the Merced Lakes region.

Among the brief notes Pemberton calls attention to 'Grammatical Errors in Vernacular Names' in the cases of the Screech Owl and Song Sparrow. Through long usage these names are generally accepted but if formed on the usual models found in Warbling Vireo and Mourning Warbler "the more prevalent practice should have dictated that these names be Screeching Owl and Singing Sparrow."—T. S. P.

A Winter Feeding Poster

THE Biological Survey has issued an attractive and valuable poster well designed not only to attain the immediate end in view of feeding birds in winter, but also to arouse widespread interest in bird-life.

It is illustrated with drawings and photographs showing methods and results of feeding birds in winter, and these are accompanied by instructions which will enable anyone to establish feeding stations. Copies of this poster and additional information in regard to winter feeding may be obtained from the Biological Survey, Washington, D. C.

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Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

MAJOR ALLAN BROOKS' observations on birds in the war zone, which we are privileged to publish in this issue of BIRD-LORE, have as much human as ornithological interest. While he arouses our fears for the safety of the Sandpiper whose search for food is constantly interrupted by the explosion of shells, we are far more concerned for the safety of the observer who, inadequately protected by sandbags, is evidently giving his attention to the bird rather than to their common source of danger.

When we realize what an irreparable loss to ornithology might be inflicted by a mere fragment from one of these shells, we are sure that every admirer of Major Brooks' paintings of birds (and that, we know, includes all who have seen them) will be relieved to hear that after serving a long period on the firing-line he is now engaged in teaching others the use of the rifle. It is a suggestive comment on war valuations that he owes his present comparative immunity from danger to his skill as a marksman rather than to his rare gifts as an artist.

EVENING GROSBEAKS have again returned to us, and bid fair to become regular winter visitants to the northeastern states, while the 'Acadian' Chickadee has been reported from localities south of those it has heretofore been known to visit. Up to this time (January 15) the winter has been far from severe and we cannot account for the presence of these and other boreal birds through prevailing climatic conditions.

What then has induced them to extend their winter wanderings to such comparatively low latitudes? The answer to this question is surely not to be based only on observations made in the region to which the birds travel, but rather upon studies made in the country which they have left.

Failure of the normal food-supply in the area where the bird commonly winters is probably the prime cause which induces birds to extend the limits of their winter range, and the presence of food in the territory invaded is a secondary factor in their occurrence there.

The number of 'records' of the Evening Grosbeak and Acadian Chickadee, for example, which have been made during recent years, sometimes prompts the question whether this is not a matter of increase in the numbers of ornithologists rather than in the numbers of birds. It goes without saying that the number of observations made increases automatically with the number of observers, and beyond question more purely accidental visitants are reported nowadays than were seen when field students were less numerous. But it does not seem probable that during the last forty years, at least, such widespread incursions as those made by the two birds mentioned could have taken place unnoticed. In this issue of BIRD-LORE, for example, Mr. C. F. Stone records the first Acadian Chickadee observed by him at Branchport, New York, during a period of twenty-six years' continuous observation, and we could cite a number of similar cases.

WE strongly condemn the proposal to organize Boy Scouts, or any other groups of boys, into bands for the destruction of English Sparrows. Such a plan has absolutely nothing to commend it. If it becomes necessary to reduce the numbers of Sparrows the work should be entrusted to trained and authorized agents of the state who could do it humanely and with a due regard to the safety of other birds.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

ONE WAY TO BEGIN THE NEW YEAR

THERE is a simple but very effective and much needed method of work which every State Audubon Society would do well to adopt. It consists in making the aims, resources and headquarters of each State Society known to every school, public library and all organized institutions to which such information might be of use, throughout the state.

A correspondent writes to the point, in describing the work of a high-school boy who is deeply interested in bird- and nature-study. "I happened to be at the Y. M. C. A. one day, when this boy came in and asked for some nature-study literature. I think it was a most unusual request, for the gentleman at the desk looked very much surprised. He passed over *The Country Gentleman*, which constituted the Y. M. C. A.'s nature library."

From another correspondent, who lives in the state of New York comes an inquiry as to whether there is an Audubon Society in the state, and if so, what it could do to help a teacher in a rural school. Communications of this kind suggest that our Audubon Societies need to establish a working connection with every village, town and city in their respective states, if they are to fulfil the object for which they were founded. It is not enough to offer a few public lectures each year, to have a succession of field-trips, or to send out traveling-libraries and demonstration material for use in schools. There ought to be and must be a *live relation* between the Society and each possible coöperator, if nature-study and the conservation of natural resources are to be successfully undertaken and carried to the desired end. When a teacher writes: "I have never found any material so interesting and educational as that you offer. The children love it, and have made a remarkable growth in their love for wild things. Their water-color bird outlines are by far their best efforts in manual work"———it is a noteworthy indication of the possibilities of the influence which Audubon work rightly directed may have in the education of the public. Again and again, comes a message of appreciation of the educational leaflets, of BIRD-LORE and BIRD-LORE'S School Department, and of the value of nature-study.

The opportunity, so long and earnestly striven for, of creating an "open door" in our schools is here. We need now more effort in the direction of making that door known and used, by keeping it *wide open*, and by extending a greeting to those who might enter if they knew the way. Each State Society

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might well have a Publicity Committee, or, if you will, an "Orientation Committee," whose duty it should be to more thoroughly present the work of the Audubon Society to all whom it may concern. The postage used in such a campaign would be well spent, we may be assured.—A. H. W.

NOTE

Teachers and organizers of Junior Audubon Societies will receive instructions and material *much more quickly*, if they apply directly to the headquarters of The National Association of Audubon Societies. All that is necessary in making application to form such societies is to collect a fee of ten cents from each person desiring to become a member, and to forward the total amount, with a request for material, to Mr. T. Gilbert Pearson, 1974 Broadway, New York, N. Y.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXI: Correlated with Geography, History and Story-Telling

We are not through with the subject of bird-music, but, during these coldest of months, it may not come amiss to take up a little studied matter which fits in well with the stories we love to hear around the fire of an evening, and the games we enjoy indoors while snow falls fast or wild winter winds blow. It is a matter which reminds one of pioneer days, tales one has read or has had the good fortune to hear from the lips of grandfather or grandmother, who repeated them as they had heard them from an older generation.

In 1905, there was issued from the Government Printing Office at Washington the second edition of a bulletin entitled *The Origin of Certain Place Names in the United States*. This bulletin, which is marked No. 258 in Series F, Geography, 45, was prepared by Mr. Henry Gannett for the United States Geological Survey, under the Department of the Interior. It represents an enormous amount of study and correspondence, and places at our disposal in brief form a delightful and suggestive amount of information not otherwise available in a single volume.

Did you ever stop to think, when you are studying the lesson for the day in geography, how many kinds of place names may be found on the map of our country? Take a random list, such as this, Chester, Fort Monroe, Halseyville, Isle au Chene, Kotzebue, North Hero, Oconomowoc, Ohio, Toronto, Wilkes Barre, Ypsilanti, Zaralla. Indian, Spanish and Aztec names run side by side down the pages of your geography with ones of English, Greek, Mexican, French and Dutch origin. Each one contains a precious bit of association with some man, nation, place, natural object, historical event or custom which at

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one time seemed of great significance to the early settlers or their dusky predecessors.

The far away home of early emigrant ancestors is cherished and handed on to future generations, in the name Chester; a President is honored and a military school distinguished, in Fort Monroe, and a first settler's successful conquest of virgin soil, in Halseyville; Isle au Chene, one of the Apostle Islands in Lake Superior, pictures the impression of French pioneers when they first saw this 'island of the oak,' while Kotzebue is the name of a Rus-

FORTY FORT JUNIOR AUDUBON SOCIETY, KINGSTON, PA.
Fifty of the eighty-five members of the class are shown in this photograph

sian navigator who, early in the nineteenth century, commanded expeditions the object of which was to explore the Pacific Ocean.

North Hero is one of two islands known as 'Two Heroes,' which was granted to Ethan Allen, "the intention being that they should be owned only by brave men warmly disposed toward the Revolution." What a thrill comes to us as this sign of loyalty toward an ideal of liberty flashes out its significance anew to us from the printed page!

Oconomowoc is the Indian way of saying 'home of the beaver.' A modern city rises to-day upon the site of this old beaver stronghold. What the struggle between civilization and nature, between man and beast, may have been is well pictured in one of Enos Mill's graphic essays. Ohio, a more familiar word, taken from the Iroquois Indians' dialect, means 'beautiful river.'

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In Toronto we have a picture-word, again from the Indian tongue, meaning 'oak tree rising from the lake.'

Wilkes Barre, Ypsilanti and Zaralla each refers to sympathizers with American independence at different times and in different ways, representing British, Greek and Mexican men of deep conviction and great courage.

Especially interesting to us are place names of Indian origin, for the reason that so many of them are connected with objects in nature. The Indian, being a hunter and a wanderer in a primeval wilderness, was of necessity a keen observer, so far as the necessities of his simple existence were concerned. Although not a student of nature, in the sense of learning for the sake of knowledge, he acquired by daily experience much information about the habits and appearance of many plants, animals, birds and other natural objects.

Being fond of bright colors, as well as attentive to all strange or unusual sounds, the Indian quite naturally was attracted by the brilliant plumage and musical notes of birds, and named these familiar creatures according to his mode of living, his superstitions, or his first impressions of their appearance and actions. In the Milicete Indian word, 'Zezos,' we find an unexpectedly beautiful interpretation of the Chickadee's 'pe-wee' song. To the childlike mind of the Milicete, whose home is in the valley of the St. John River, the leader of a flock of Chickadees sings 'Tezos,' that is, 'Jesus,' to its mates. In this single word is contained a picture of the simple faith of the Indian, converted to Christianity by some devoted French priest.

The peculiar motions of the Nuthatch attracted the red man, who named this familiar bird Tci'-di-wa'-ti-wemp'-tos, that is, 'bird that goes slowly down a tree-trunk.' To the male and female Robin, as well as to their nest and eggs, were given separate names, each signifying some noticeable characteristic.

If you can pronounce the Indian word for Whip-poor-will, 'Hwip'-o-lis,' you will have a close imitation of the notes of this nocturnal singer.

A-bak'-wi-ses', or 'Bird-that-butts-its-head' is no other than the Downy Woodpecker, while Gas'-kum-un-is, the Kingfisher, is especially interesting, since it refers to a sudden or unexpected dropping beyond one's depth when wading in water, and, as used to describe the Kingfisher, means its manner of plunging for prey.

But to return to place names, let us study a few more words of Indian derivation, which will be only an introduction to the pleasures in store for those who take the matter up further.

Chicago—Ojibwa Indian form *she-kag ong* = 'wild onion place.'
Chicacomico—Indian form = 'place where turkeys are plenty.'
Acabonack—Indian form = 'root place,' where the Indians found roots for medicinal uses.
Adirondacks—(Mohawk) Iroquois form = 'bark eaters.'
Ahiki—Indian form = 'sweet potato mother.'
Ambajeejus—Indian form referring 'to two large, round rocks, one on top of the other.'
Amicalola—Cherokee Indian form = 'tumbling' or 'rolling water.'

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Androscoggin—Amasagunticook form = 'fishing place for ale wives,' or 'fish spearing.'
Antigo—Indian form = 'evergreen.'
Apopka—Indian form = 'catfish eating creek.'
Aptakisic—Indian form = 'half day' or 'sun at meridian.'
Aquaschicola—Indian form = 'where we fish with the bush net.'
Arcata—Indian form = 'sunny spot.'
Aswaguscawadic—Indian form = 'place where one is compelled to drag his canoe through a stream.'
Attapulgus—Indian form = 'boring holes into wood to make a fire.'
Attitah—Indian form = 'blueberries.'
Aztec—name of a native Mexican tribe = 'place of the Heron,' 'shallow land where vapors arise,' 'land of the flamingoes.'

From these few examples, it is easy to see how the Indian marked the places to which it was useful for him to be able to find his way, or, which appealed to his sense of beauty, or served as a landmark through newly trodden ways. Many of these names will be unfamiliar to you, but they will all be found on the map of the United States. It would make an interesting evening's game to look up the locality of each place in a large atlas.

The list of words might be indefinitely prolonged, if there were space. It remains for you to find a deeper meaning in your study of geography than merely learning to locate places on maps. Would it not be easier to remember, for example, that Menominee is a city in Wisconsin, and also, in Michigan, if you knew that this queer Indian word refers to the wild rice which once grew abundantly about those places? Wild rice, in turn, suggests wild birds which prefer that food and, by this clew, one might discover something of the abundance of such species in earlier times.

Summing up this rather novel method of study, we may find it of value in three ways: first, to stimulate interest in routine study; second, to aid the memory through the association of different ideas; and third, to awaken the mind to the wealth of knowledge hidden in words, which is free to all who have the will and the wit to claim it as their own. This New Year, let us make the hours in school count for more, by getting the most we can out of what we have to learn.—A. H. W.

FOR AND FROM ADULT AND YOUNG OBSERVERS

"John Thoreau, Jr. (Henry Thoreau's eldest brother), one day put a Bluebird's box on my barn,—fifteen years ago, it must be,—and there it still is, with every summer a melodious family in it, adorning the place and singing his praises. There's a gift for you which cost the giver no money, but nothing which he bought could have been so good." Excerpt from Emerson's Diary.

NOTE: "The Bluebird box has lasted until destroyed by a spring gale of the present year" (1915).

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FROM A STARCH-BOX TO A TWENTY-SIX ROOM MARTIN-HOUSE

Some years ago, I began to see bird-houses in different gardens near my home, and became interested in them. I was twelve years old at the time. Tools had been given me by relatives, but I never had any real use for them. The interest in bird-houses started my tools on their proper journey in life.

My first efforts began with starch-box foundations, and Wrens and Bluebirds are not skeptical about such architecture. From the way Jenny Wren perks about, some of the starch of original abodes of this kind seems to have entered into her makeup. Immediately Wrens and Bluebirds took advantage of the new dwellings. I was still on the step-ladder, having just placed a house, when a vivid Bluebird, the first one of the season, perched on the new roof. It was a magic incident. He came from the sky like a blue arrow and was as quickly gone. Later he came with his mate to delight our household.

After reading my first bird-books, specific needs impressed themselves upon me very quickly. As with all things we love, nothing is too good, so an investment in clean, smooth lumber was made. The size of the various doors began to mean something. Ventilation was a consideration, and placing the houses with regard to wind and rain. The neighbors were touched by the new interest, and a kind neighbor made helpful suggestions. The third year, ambition and ever-growing interest reached 'from pole to pole,' and alighted on Martin-houses. Some six-room houses of unique design were built, but placed too near the dwelling for occupancy. Martins came to the garden all through the season, fluttering on the houses and expressing most earnest regret that their needs could not be met. The joy ahead this year is that twenty-six rooms of solid comfort await boarders this spring, the distance of the Martin-pole away from the house being scientifically correct.

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Next to the passing fire-department, nothing occasions quite the stir that the shrill cries and wheeling about of several Martins hunting for an abode do. The whole family rush for the windows, and send up all kinds of silent petitions to the flying birds to 'remain and try us.'

In the fall and winter, I have made some bird-feeders and shelters. Juncos and Chickadees have come and certainly brought their friends. An automatic feeder is kept extremely active in the front parkway of my home. From the way people handle and study it, kind hospitality is on the way for other birds. Now I have a formula of various seeds suitable for all winter birds, and these efficient garden friends are being properly attracted.

I have tried both cypress and white pine for making bird-houses, and find the latter the most practical and easy to work with. All my houses are built in such a way that they can be readily cleaned. Either the bottom, side or front is removable. Any boy who is looking for the most interesting pastime and study had better 'follow the leader' BIRD-LORE. Nothing can touch it for wide-awake surprises and benefit.—CONROY EVANS, *Evanston, Ill.*

[The accompanying illustration is the best commentary on this article. Dog and boy are equally alert, and the Martin-house pictured shows the thought and careful workmanship bestowed upon it.—A.H.W.]

WHAT I AM DOING FOR BIRDS

This winter when the birds could not get much to eat, I put some suet on the tree near our house, and I had fun watching the birds eating it.

When it got warmer, I made a bird-house for the Wrens and put it out. I am hoping they will like it.

And I have noticed that the birds have come to our apple trees, and at first we thought they were eating the frozen apples that are on the trees; but I found out that they just wanted the seeds to eat.—ALLEN DUKE (age 11), *Mt. Vernon, Iowa.*

WINTER PENSIONERS

Every winter during November I put out feeding-stations. Heretofore the Slate-colored Juncos have never stayed at my feeding-stations after the latter part of December, but this winter they are still here in January, there being at least three of them.

As far as I can ascertain no one else in Ithaca has any Slate-colored Juncos coming to their feeding-stations. Thinking this may interest the readers of BIRD-LORE, I am sending it in.—DONALD T. RIES, *Ithaca, N. Y.*, Jan. 6, 1916.

[Who will keep a record this season of feeding-stations and their visitors?—A. H. W.]

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THE WHITE-BREASTED NUTHATCH AND THE FOOD-COUNTER

The White-breasted Nuthatch is the most appreciative little guest that visits the food-counter in winter. 'He eats what is set before him and asks no questions.' He makes no complaints whatever. Fat pork and suet are his favorite foods, but of course when he cannot get them, he is perfectly contented with bread-crumbs. He comes at the slightest ring of the dinner-bell.

The White-breasted Nuthatches are my most numerous guests at my 'free lunch-room.' When they come for food, they remind me of a brook eternally flowing. Frequently three to five may be seen bouncing down the tree-trunk to the counter.

One of my guests, however, is rather greedy. He scurries down the tree to the counter flippantly, as if he owned it all. He then pops in and takes his meal.

While eating, he has an expression on his tiny face that makes him look like a naughty boy. I expect he knows he should not take so long, but just simply wants to be bad. Others respect their friends and hurry away as soon as they find a piece that suits them. They go away so quickly you would think someone was nearby to shoot them. Maybe, and I shouldn't wonder, if that wasn't bird politeness.

Frequently I have seen five going to the counter at once. It is great fun to watch them feed. These bright little sprites are a joy to the whole household. We consider them as part of the family. I know we will miss them when they go on their journey northward, but hope to see them next winter.—SARAH W. WEAVER (age 12), *Monkton, Md.*, 1916.

[Birds' politeness is hardly a suitable phrase, since it conveys a human conception of meeting and greeting. Some birds go so far as to quarrel at the lunch-counter, striving to get the best or the most of the bill-of-fare. The pleasure to be had watching feathered guests at a lunch-counter cannot be over estimated.—A. H. W.]

BIRD-STUDY BRINGS ITS OWN REWARD

I wrote you concerning a club of women, two of whom have studied birds for years. We have had such a delightful Nature Club for two years! Birds are our particular study.

Several of us take BIRD-LORE and we have it in our public library.

Last year I had a very enthusiastic seventh grade of forty pupils. We have our Audubon Leaflets and use them for our Friday reading lesson. I *steal* time when the drawing teacher cannot manage and have several of the pictures painted, then we have an exhibition of our work and vote on the best work. As we were members of the Audubon Society, the Liberty Bell as a grade, and three of us belonged to the Burroughs Club, we decided to have a name of our own, and chose 'Ch'gee gee,' Indian for Chickadee. Our banner

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is orange with black letters, and the two banners, Liberty Bell and Ch'gee gee, decorate our school-room. The seventh and eighth grades of our school have morning exercises together. The Principal gives me fifteen minutes each Monday morning, when we have observation for the week and I take up some new work. Of course it is a short period, but it is gratifying to see what has been accomplished. Many of the children own bird-books. We have 'Bird Neighbors' and 'Bird Life' on our shelves for reference, also 'Birds that Every Child Should Know."

I have taught here two years and feel that two large grades have been well started in bird-study. We have no manual training class, but many of the boys have made nest- and feeding-boxes.

Our ladies' club has started a sanctuary at the cemetery. It is a beautiful spot for such work and we have the cordial support of the gentlemen most interested in the cemetery work.

I am hoping that this coming year in school will be as happy in bird-study as the past two years have been. We shall be particularly interested in the School Department of BIRD-LORE.—MRS. DELIA B. HEMSTREET, *Canton, New York.*

A METHOD OF BIRD-STUDY

In the spring of 1913 I, who knew perhaps ten birds by sight, became suddenly interested in nature-study. Since then every possible spare moment has been devoted to an exact study of our feathered friends. As a teacher, I realized how ignorant the children of large towns and even of the country were in regard to nature. I resolved that wherever I taught the children should learn to appreciate the great out-of-doors. The last two years have brought much enthusiasm, especially last spring.

As everyone knows, not many birds frequent northern Maine during the cold season. The few residents such as Chickadees, Woodpeckers, Snow Buntings, Redpolls and those rarer visitors, the Pine Grosbeaks, Horned Larks and the White-winged Crossbills were eagerly watched for daily. There were no feeding-stations, for interest had only begun. However, short five-minute talks were given every morning.

While the snow was yet deep upon the ground, I prepared for the spring campaign. I presented each pupil with a drawing of a bird with each part outlined and numbered. The corresponding names were listed at one side of the paper. In a very few days the correct spelling, pronunciation and meaning of these names were learned in the spelling recitations. Next I had the pupils locate and name these parts on several specimens in view of the whole school. Several stuffed birds were obtained from the Aroostook State Normal School collection at Presque Isle, Maine. Thus, the children knew how to designate each marking on birds observed.

Then a small club, the Madawaska Model School Junior Audubon Class, was formed. There should be a very large class this year, while I am far away studying birds of the sunny South. In March, 1915, the pins, bird pictures, literature, etc., were received at Fort Kent. A bird corner was next instituted. Several colored bird pictures were hung above the two slates, on which was written a Bird-Study Outline. This outline was copied by each pupil, and was used in the study of every bird reported. To this corner were added two nests, one a Robin's, the other a Crow's, also three mounted specimens, a Pileated Woodpecker, a Hairy Woodpecker, and a Paroquet. The three

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last were kindly loaned by friends of the school. Each bird observed had its name listed immediately. The Bird Calendar, which was a large sheet of bristol-board, hung at one side of the corner and was lined and marked as follows:

BIRD CALENDAR 1915

No.	Bird	First observer	Date	No.	Bird	First observer	Date
1	Redpoll	Nora Dow	Jan. 18	40			
2	Horned Lark	Essie Babin	Jan. 20	41			

The list of birds seen during the spring numbered over eighty. In addition to this calendar, each pupil kept an individual notebook where the number, name, date and place were all recorded. As there were only two pairs of field-glasses available, most of the birds were studied with the naked eye. The bird book was not passed around for inspection, for fear that the children would become familiar with the picture instead of observing the actual bird. Thus the children learned to listen attentively, to observe quickly, and to specify exactly. After a bird had been reported and well described, the colored picture of it was shown to the whole school. Daily, a few minutes early in the morning, all the late arrivals were discussed.

The children were greatly helped in this study by the favorable location of the school grounds, which extend down to the bank of the Fish River. Along two sides of the yard are low bushes, while a number of poplar trees with much underbrush fringe the bank. Many a time, play was forgotten while the eager students watched the Belted Kingfisher diving for his prey. The children, arriving early to report some 'perfectly wonderful' bird just seen, were greeted by the last refrains of the morning chorus of the Sparrows, Chipping, Vesper, White-throated and Savannah. Everywhere the Pine Siskins frolicked. The near-by marshes were flooded with music by the Rose-breasted Grosbeak, the Purple Finches and the Pine Grosbeaks. One evening, directly after the close of school, several of us were lured down to the bank of the St. John River by the wildest carols. We were well rewarded, for we watched for some time nine Pine Grosbeaks flashing from one branch to another on an old dead tree.

Enthusiasm reached its highest during the latter part of May and the first of June. For nearly a month the weather had been very mild but it suddenly became very cold on May 23. During the night heavy winds blew up a freezing rain-storm, which continued until the afternoon of May 28. By reason of the rain or the intense cold, or both, the school grounds were invaded by a multitude of chilled and perhaps starving birds. Field-glasses were unnecessary, because the birds would come to the steps and pick up crumbs. Some of the species seen were Robins, American Redstarts, and other Warblers galore, Wilson's, Blackburnian, Parula, Chestnut-sided, Black-throated Blue, Yellow, and Cape May. In fact the plowed land to the east was dotted with Myrtle, Magnolia, and Cape May Warblers. The latter are supposed to be very rare in Maine. The Magnolia Warblers seemed to be bluish gray in color. One noon, as the children were scattering crumbs by the back steps, they received an informal call of some ten minutes in

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length from a Lazuli Bunting. How he happened there was a mystery! Perhaps half an hour later, there nearly alighted on the heads of the much excited observers a Parula Warbler.

Many dead bodies were found and brought to school. Some had been frozen, some had been killed by beating against houses or trains, while others had been captured by the ever watchful cat. Among the number were three Blackburnian Warblers, one Tree Swallow, one Oven-bird, one Mourning Warbler, one Black-throated Blue, and one Chestnut-sided Warbler. There were several other specimens also which were sent with those named, to be mounted.

As the birds were so chilled, many of them were captured by the children. One little Assyrian boy on his way to lunch returned before he had gone home in order to bring a Black-throated Blue Warbler. Another teacher tried to take a snapshot of the little prisoner but he escaped. A Wilson's Thrush, early one morning, was placed in an open window from which he chose to watch the school for over half an hour. What pleased the boys was a baby Grackle which had been blown from its nest to the sidewalk by the heavy gales. It was placed in a wooden quart measure. Every lad had his turn at digging worms to satisfy the enormous appetite of the little creature. The unceasing cries were tiresome, but they helped to increase interest. What matter, then, if the regular routine for the day was disturbed?

Not only birds on the wing but nests, eggs and young were studied. As soon as the weather became fair the ranks began to thin. No more did the Parula and Mourning Warblers or the Lazuli Bunting appear to view. However several pairs of birds sought suitable homes for themselves in our vicinity. The children discovered and reported two nests, which contained eggs, in an adjacent field. Of course the names of the owners were learned only after careful stalking. The time required for incubation was never known. However the eager students easily ascertained that the little birds spent approximately eight days in the nests. But a short distance away a large colony of Bank Swallows hollowed out nearly two hundred cavities in the soft, sandy river bank. Five minutes' walk from the school building brought to view the old dead tree where the patient mother Flicker abode. At first both parents used to fly away when any one approached but, becoming accustomed to visitors, they in turn surveyed the well meaning intruders. A day or two before the close of school a Chipping Sparrow laid five beautiful eggs in a soft nest, hidden in a little evergreen tree. However, the friendly Robins preferred the quiet of the old cemetery for establishing a residence district.

As for the actual results gained, I can only hope that my daily talks with my children and with the student-teachers who visited our room will extend the interest in birds to all the schools in that section of the Pine Tree State. Just recently one of my former pupils stated in a letter that the business men of Fort Kent were having such signs as 'Feed the Birds' posted in their shop windows. The teachers are already planning campaigns there for this spring.—(Miss) CARRIE COOPER, *Arcadia, Georgia.*

AROOSTOOK STATE NORMAL SCHOOL BIRD-STUDY OUTLINE

Date: 19—. *Name of Observer:*
Weather: *Temperature:* *Wind:* *Locality:*
Time of Starting: *Time of Return:*

Observe accurately and record on the spot as much as you can of the following:
Size. Use some well-known bird as a standard for comparison and reduce to inches later.
Color, general;

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Number and color of wing-bars;
Stripes on head and how placed;
White outer tail-feathers;
Under tail-coverts, if different from belly;
Color of rump, if different from rest of bird;
Color of sides, if brightly colored;
Any odd ornaments or patches of color.

Shape of Body, slender or bulky.
Tail, long, short, square, rounded, forked.
Wings, round, pointed, long or short—judged by distance measured off on tail while sitting.
Shape of Bill, draw outline.
Habits, ways of moving, walking, hopping, flying;
Perch preferred, trunk, limb, dead twig, tree top, etc.;
Manner of sitting;
Manner of flying, direct, undulating, heavy, flapping, etc.;
Disposition, restless, quiet, stupid, sly, tame, suspicious.
Food, how procured?
Song, describe as nearly as possible, as chirps, trill, twitter, melody, scream, hoot, etc.
Nest, where placed; how placed;
Material used;
Did both birds work on nest?
Eggs, number.
Sexes, are both colored alike, if not, state marks of each. Color and markings.
Number, abundant, common or scarce.
Migration.
Economic Value.
Extra Notes.
Name of Bird.

[Fort Kent is about as far north as one can go in Maine without crossing the line into New Brunswick. The wealth of bird-life there is apparent from the extensive list of migrants and winter visitors mentioned. It would be well, however, to feel much doubt about seeing a Lazuli Bunting in Maine. An escaped Painted Bunting was once reported in the state, but it was identified as a cage-bird. Possibly a chance Blue-gray Gnatcatcher was seen, or in the excitement of the spring migration, the Indigo Bunting was wrongly called the Lazuli. Aside from this, the account is unusually full of interest and helpful suggestions.—A. H. W.]

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THE ENGLISH SPARROW

By T. GILBERT PEARSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 90

Many kinds of foreign birds have been introduced into the United States with the hope of having them become acclimated to their new surroundings. In many cases this action was taken by persons who doubtless were actuated by the desire to have around them certain forms of bird-life that they had been accustomed to see and enjoy about their European homes before migrating to these shores.

Linnets, Bullfinches, Skylarks, and many other birds, interesting on account either of their singing, or of the striking character of their plumage, have been liberated in the United States and Canada. Game-birds, especially Hungarian Partridges, the little European Quail, and various species of Pheasants go to swell the list of foreign birds that have been brought here to mingle with our native bird-population. As a rule these imported species did not thrive in their new surroundings, and after a short time were seen no more.

The most striking exception to this rule has been the House Sparrow of Europe, which in this country has acquired the incorrect title of "English" Sparrow. The first importation of these birds appears to have been made in the year of 1850, by the directors of the Brooklyn Institute. Eight pairs were that year liberated in Brooklyn, New York. In a bulletin on the English Sparrow, issued by the Department of Agriculture in 1889, a statement by the Hon. Nicholas Pike is quoted, in which he gives an account of this early attempt to naturalize English Sparrows in this country. He writes:

"It was not till 1850 that the first eight pairs were brought from England to the Brooklyn Institute, of which I was then a director. We built a large cage for them, and cared for them during the winter months. Early in the spring of 1851 they were liberated, but they did not thrive.

"In 1852 a committee of members of the Institute was chosen for the re-introduction of these birds, of which I was chairman. Over $200 was subscribed for expenses. I went to England in 1852, on my way to the consul-generalship of Portugal. On my arrival in Liverpool I gave the order for a large lot of Sparrows and song-birds to be purchased at once. They were shipped on board the steamship 'Europa,' if I am not mistaken, in charge of an officer of the ship. Fifty Sparrows were let loose at the Narrows, according to instructions, and the rest on arrival were placed in the tower of Greenwood Cemetery chapel. They did not do well, so were removed to the house of Mr. John Hooper, one of the committee, who offered to take care of them during the winter.

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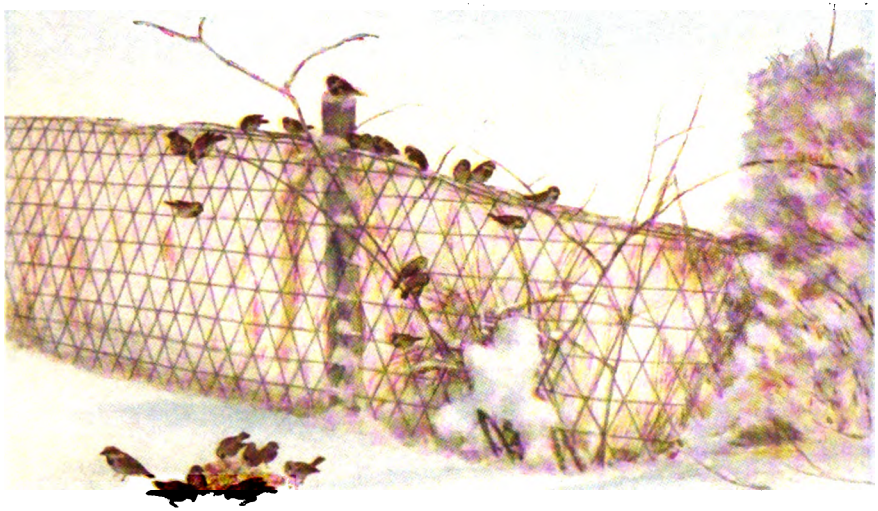

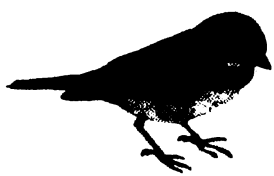

ENGLISH SPARROW

Order—PASSERES
Genus—PASSER
Family—FRINGILLIDÆ
Species—DOMESTICUS

National Association of Audubon Societies

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"In the spring of 1853 they were all let loose in the grounds of Greenwood Cemetery, and a man hired to watch them. They did well and multiplied, and I have original notes taken from time to time of their increase and colonization over our great country."

This appears to have been only the first of many importations that followed. For example, Colonel William Rhodes, of Quebec, Canada, introduced Sparrows at Portland, Maine, in 1854. Other men brought some to Peace Dale, Rhode Island, in 1858. In 1860 twelve birds were liberated in Madison Square, New York City; and four years later they were introduced into Central Park. In 1866 200 were set free in Union Park, New York City. Forty pairs were brought to New Haven, Connecticut in 1867. Twenty Sparrows were turned loose in Boston Common in 1868. In 1869 the City Government of Philadelphia bought over one thousand Sparrows. In the same year twenty pairs were brought to Cleveland, Ohio, and sixty-six pairs were taken from New York to Cincinnati. Shortly after this they were introduced in San Francisco.

It will be seen therefore from the above records, which are not at all complete, that the present population of English Sparrows did not develop in this country from a single importation, as has sometimes been stated.

Their appearance seems to have been hailed with delight by the people of the country generally, for many records tend to show that after they once became fairly well established in the East, there sprang up a regular Sparrow craze, for the birds were captured and taken to scores, if not hundreds, of places in different parts of the country.

Not only were they distributed artificially, but the birds also spread rapidly by their own initiative. Their progress was made chiefly along the highways, where the droppings of horses furnished an abundant supply of half-digested grain, and along the railroads where the grain-cars, particularly in autumn, were continually scattering food along the right-of-way.

At the present time there are comparatively few communities in the United States or in southern Canada where the English Sparrow is not well known, and probably it is the most numerous species of bird in North America. It is chiefly a bird of the cities and towns, and is usually not found in abundance in the thinly populated parts of the country. In the autumn, however, when the Sparrows are most numerous, owing to the recently reared broods, and in cities where the Sparrow population is already at its maximum, many of these birds are naturally forced out of the cities and towns in quest of food.

In no way does the English Sparrow show its fondness for living near human habitations more than in its nesting-habits. Unlike other Sparrows, it rarely, if ever, constructs its nest in woods, thickets, or fields at any considerable distance from a house. During the breeding-season the birds swarm in the towns and cities and there, in crevices about buildings, in water-spouts, or in boxes put up for the convenience of other birds, it makes its home. The hollows of trees are frequently used for this purpose. When such nesting-sites are no

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longer available, owing to overcrowding, they will build bulky, covered, and ill-looking nests among the branches of shade trees. The nesting material used consists of straw, grass, twigs, rags, fragments of paper, or feathers; in fact, almost any substance that may easily be carried seems to be regarded by these birds as suitable material for nest-making.

The eggs are spotted, and usually range in number from four to six. Two or more broods are often reared in a season. The Sparrow is extremely prolific, and one evidence of its wonderful ability to avoid dangers and thrive is shown in the fact that in large cities, where destructive natural enemies are reduced to a minimum, albinism has become more and more noticeable. I have observed here in New York City in recent years that the number of Sparrows showing white feathers in the wings or on the body has apparently increased. If these unusually marked birds lived in the country they would, of course, be shining marks for predatory enemies.

While primarily a seed-eater by nature, the English Sparrow is nevertheless quite omnivorous in its food-habits, and it annually destroys many insects. I recall some years ago talking with two farmers in Onslow County, North Carolina, who were lamenting the fact that the law did not protect the English Sparrow, for they stated that these birds were among the most valuable species on their farms because of their great fondness for the caterpillars that infested their tobacco plants.

An observer in the United States Department of Agriculture recently found that in Utah these Sparrows were feeding their young largely on the cutworms and other insects that were then a scourge to the alfalfa fields of northern Utah. Other observers in various parts of the country have pointed to instances where the English Sparrow was of decided economic value. These cases, however, appear to be comparatively isolated ones, and are regarded by our agricultural experts in Washington as being greatly overbalanced by the injury these birds do to the general interests of mankind.

Most persons who have tried to cultivate gardens or small fruits in the neighborhood of towns or cities are ready to testify to the annoyance they have experienced by English Sparrows eating tender plants, such as new peas and young lettuce, as well as by the destruction of such fruits as cherries, pears, grapes, and peaches. They also frequently destroy buds and flowers.

The United States Department of Agriculture scientifically investigated the contents of the stomachs of a large number of English Sparrows, and reported that aside from the destruction of weed-seeds, very little is to be said in the English Sparrow's favor. In reference to the insects destroyed this statement is made: "Out of five hundred and fifty-two stomachs inspected by the Biological Survey, forty-seven contained noxious insects, fifty held beneficial insects, and thirty-one contained insects of little or no importance."

There is a widespread feeling that the country would be better off if the English Sparrow had never been brought here. This sentiment against this

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bird, whether justified or not, has arisen because of the annoyance it gives to gardeners and fruit-growers; its tendency to destroy the nests of small native birds and thus drive them out of our towns; the loss caused by fires due to the nests placed about buildings catching sparks; its uncleanly habits spoiling sculptures on the façades of buildings; its noisy chatter about the house and yard where once the songs of other birds were heard, to say nothing of the petulant calling and fighting in the early morning heard about bedroom windows where late risers are taking their "beauty sleeps."

Resentment against the bird is reflected in the laws of our country, for in no state in the Union is the English Sparrow protected by statute. Every little while there are discussions in the public press about starting "Sparrow-wars" with a view to exterminating these birds. Now and then we hear of some community's efforts looking to this end. Such attempts, however, have virtually been futile, as the English Sparrow can take care of itself so successfully that only by continuous warfare against them, year after year, can their numbers be kept down in any particular community.

Sometimes the experiment is made of offering a bounty on the heads of Sparrows. One objection to this procedure is that inexperienced persons, who are not able to distinguish between the English Sparrow and one or another of our native Sparrows, immediately become active in such a campaign, and our native birds suffer as a result. Within the past month an agent of this Association visited a western town where a bounty was being paid on dead English Sparrows. This agent examined the dead birds brought in during three days, and found that only one out of every eleven birds brought in, on all of which the bounty appears to have been paid, were English Sparrows; the others were all useful native birds.

"What shall we do with the English Sparrow?" is a question which this Association is probably asked once a day on an average throughout the year. I confess my inability to answer this question. The Department of Agriculture at Washington has attempted to answer it by issuing bulletins advising people to poison and trap the birds. Whether this course is wise, it may at least be said that all such attempts in a public way instantly produce strong opposition by many hundreds of men and women who, perhaps in lieu of more interesting bird-neighbors, regard with pleasure the presence of the English Sparrows, and often feed them upon their window-sills, or provide boxes for their accommodation.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
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FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

MOTION-PICTURES OF WILD BIRD-LIFE NOW AVAILABLE

As part of the Association's work in applied ornithology, Herbert K. Job has been photographing and producing a library of motion-pictures of varied phases of wild bird-life. Seven reels have been completed, and others are expected to follow. These films are of excellent quality and have been well received, some having been used on the professional stage widely over the country.

A duplicate set of these seven reels has now been prepared, and will be rented out from the New York office of the National Association. Besides the descriptive legends on the films, there will also be supplied typewritten notes, prepared by Mr. Job, to supply further information. Following are the titles and contents of the films:

Reel I. BIRD-LIFE OF THE WEST COAST OF FLORIDA. Scenes in breeding colonies of water-birds, concluding with the Bird Key Reservation, Dry Tortugas, showing thousands of sea-birds.

Reel II. SEA-ISLAND RESERVATIONS OF LOUISIANA. Touring through Breton Island Reservation with Col. Theodore Roosevelt; visiting an immense Pelican city and other places of interest.

Reel III. WHERE WILDFOWL WINTER. A winter trip to the vast wild-life reservations on the Louisiana coast, amid thousands of wild ducks and geese, and of other birds. A fine film for sportsmen.

Reel IV. ATTRACTING WILD BIRDS. Shows Junior Audubon Society work and methods of feeding and attracting birds on estates; also the wonderful breeding-colony of Egrets and other water-birds created by Edward A. McIlhenny, at Avery Island, Louisiana.

Reel V. PROPAGATION OF GAME-BIRDS AND WILD WATERFOWL. Scenes depicting methods of breeding and rearing these interesting species on estates, showing what may be done, either as a pastime or as an industry.

Reel. VI. BIRD-STUDY FOR LIVE BOYS. How a high-school boy worked for the Audubon Society, and helped to take motion-pictures of numerous common birds at their nests feeding their young. Chestnut-sided Warblers are shown feeding their brood in his hand and on his head.

Reel VII. HOME-BIRDS FOR EVERYONE. Out on a 'bird-walk.' The intimate home-life of the most familiar dooryard

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birds—Robins nesting on the window-sill, Catbirds in the shrubbery, a Blue Jay family by the kitchen roof, and various others.

For the present, charges as follows will be made for the use of these films: $5 for one reel, and $3 for each additional reel. Transport charges are borne by the receiver. Four or five reels make a good evening's entertainment.

THE EDUCATION OF A ROBIN

By MARIE KUGLER

During a severe storm, early in May, a Robin's nest in our yard was blown down, and, when found, only one of the young birds was alive. His bare little body was stiff with cold, but after being wrapped in cotton and kept near the fire a while, he revived enough to swallow food. For several weeks he was a very dependent little fellow, but later on developed decided opinions. As soon as he was old and strong enough to fly well he was turned out of doors, and we supposed that after a day or two he would mingle with the other feathered folk; but not so. He would fly about until tired out, then come to the door and beg to get in, and even as late as the last of August he would come to the back porch for food and water.

As he had been brought up by hand, he did not know how to find food for himself. He would sit and scream at sight of a worm or berry, expecting it to drop into his wide-open mouth, but would make no effort to pick it up; so we had to teach him to hunt for food out-of-doors. We taught him to pick currants from the bushes by holding him under the clusters so that they just touched his bill, and it wasn't long before he realized that it takes 'pull' to get things in this world. He soon became expert at it, and in a few days we had the pleasure of watching him make profitable round-trips from fence to bush with never an instant's pause.

After a few trips to the garden, where we dug worms for him, he learned to look for them on the ground, and later on we were almost sure to get an answer from him in the corn-rows whenever we called his name, and, until quite late in the summer, he would answer and come to us from the trees when we were in the yard. He would ride round on our shoulders but his favorite perch was on someone's head.

He loved to bathe and made his wants known plainly by going to his drinking-cup and fluttering his wings violently. After his bath he would fly to the round of a certain chair to preen himself. Since he had no family to associate with, it took several hard-fought battles to establish himself in bird society; but by the end of the summer he seemed to be on good terms with the other Robins in the neighborhood. I had read of the 'whisper songs' of birds, but had never heard one until this bird began to sing. Evening after evening he would croon the dearest little twittering songs to himself, as if putting himself to sleep with a lullaby. We took several good pictures of him, but the accompanying one is his best; it shows him at meal-time, very much interested in the menu.

THE PET ROBIN GETS A WORM FROM ITS FRIEND, MISS MARIE KUGLER

We are wondering whether he will come back to us next summer. We have marked his foot so that we may recognize him.

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NOTES OF AUDUBON WORK

Busy Bird Clubs

Dimock, Pennsylvania, is a scattered crossroads village of 123 souls, yet it has a Junior Class of 23 members that hold meetings fortnightly, all the year round, and even more often in summer.

Bird clubs in southern California are being entertained by a little play entitled 'The Woodpeckers' Convention,' written by Mrs. Louise Carola Davis, and illustrated with stereopticon slides taken from her own photographs of California birds.

Fritz Hagans, the new president of the Forest Hills Audubon Society, has had the Boy Scouts distribute from door to door directions for the proper feeding of the wild birds that remain in the gardens over winter. He especially recommends the giving of water, even before food; and suggests the melting of suet and mixing it with hemp, millet, rape and canary seed, and crushed corn, putting this in a feeding-box a few feet above the earth. Suet may also be fastened to the trees, far enough up to be out of the way of dogs.

Mrs. Granville Ross Pike, who has been doing good Audubon work in southern California under the auspices of the National Association, has prepared 'The Birds' Declaration of Independence,' which is an excellent document for conservationists, and has a gentle irony that appeals to every mind.

It is pleasing to know that such a veteran as Dr. Thomas S. Roberts, of Minneapolis, is still active in bird-protection work, keeping local clubs wide-awake, and availing himself of varied opportunities for preaching the gospel according to Audubon.

The flourishing Watertown (N. Y.) Bird Club lately had an evening meeting devoted to the life and studies of Audubon. This club lately published a capital pamphlet on the birds of its territory by E. J. Sawyer, well-known as an artist of bird-life, who is one of its members.

TWO ROBINS AT THEIR BATH
Photographed by Esther Heacock

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BIRD-BOXES BUILT AND SOLD FOR THE BENEFIT OF THE WAR-SUFFERERS
Photographed by W. W. Grant

At the recent annual meeting of the Ohio State Audubon Society, Miss Gertrude Harvey reported that twenty-five kinds of birds nested every year in her garden.

The State Audubon Society of California has designed a handsome seal, depicting a Phainopepla in a pepper tree. It is to be printed on a 'sticker' and used as has become a custom with the Red Cross seals at Christmas.

An autumn meeting of the energetic bird club of Saratoga Springs, New York, was entertained by a novel 'stunt' in the program. The hall was darkened, and the Secretary, Miss Kate McCloskey, told the progress of a June day in the bird-world. As she proceeded from hour to hour, calls of the various birds singing during the day were given by a group of boys stationed in different parts of the auditorium—songs of the Robin, Whip-poor-will, Thrush, Bob-white, White-throated Sparrow and other familiar acquaintances. In addition to this, pictures of birds were thrown on the screen, and phonograph records of their songs given simultaneously. Such programs are both instructive to the audience and helpful to a society.

More Alien Depredation

The accompanying photograph represents the contents of an Italian's pocket after his capture at South Norwalk, Connecticut, one Sunday morning last spring. It illustrates what would happen here in the North if it were not for the work of the wardens. To show the persistency of the Italians in killing song-birds, I have but to mention one swamp adjoining the farm of an Italian on the edge of a city, where for the fourth year running we have captured an Italian shooting small birds; and three years out of the four the culprit was stopping at the farmer's house, and each year was severely fined. This summer I caught a man with two Juncos and one Goldfinch, showing that nothing is too small for them. Education is to solve the problem through the children, but enough old ones are among us, and new ones all the time coming, to

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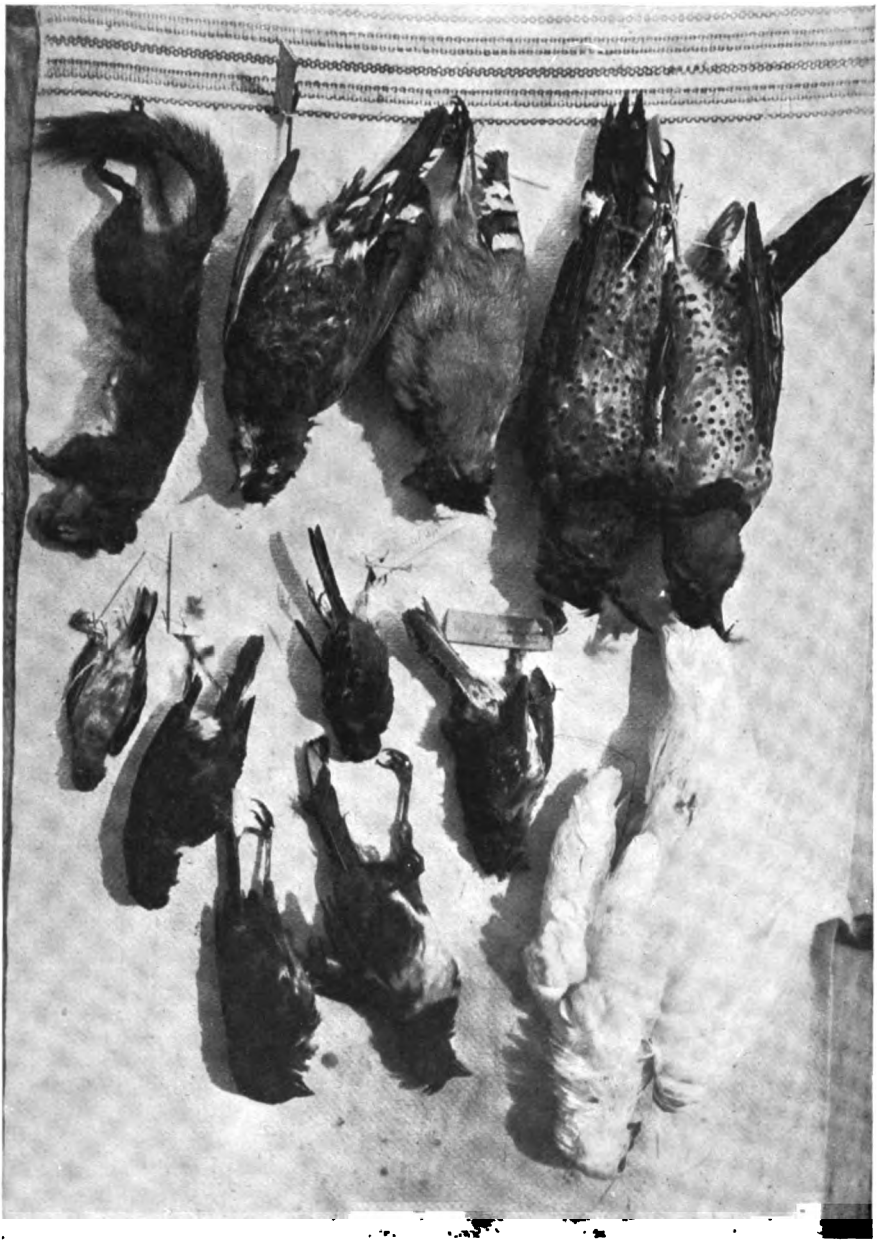

AN ITALIAN'S GAME-BAG IN CONNECTICUT

Two Flickers, two Chewinks, one Robin, one Hermit Thrush, one White throated Sparrow, one Field Sparrow, one Goldfinch, red squirrel and a domestic Pigeon. He had ammunition enough to last all day.

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be a serious menace to all forms of wild life. The arm of the law, in the form of the game-warden, must still be busy. We captured one Italian with two Rhode Island Red Chickens he had shot.—WILBUR F. SMITH, *South Norwalk, Conn.*

Loss of Bird-Life in Forest Fires

William B. Mershon, of Saginaw, Michigan, sends us a note from J. H. McGillivray, a forest expert, that adds another and very important reason for extreme care in preventing forest fires. The note follows:

"It may interest you to know that I made a game-survey last summer of approximately ten acres of green covert on the Au Sable River, along about the same extent of burnt-over ground, and by conservative estimates based on the wild life found, allowing 5 cents each for song-birds, 25 cents each for Partridges, etc., as food-value, and an equivalent value for recreation purposes, multiplied by the number of acres in Michigan burned over last year, increased decimally (for wild life averages ten years of life), I found that even holding the timber loss to the exceptionally low figure of $86,000, we destroyed by forest fires approximately $3,000,000 worth of game."

The Birds and the Belgians

The young son and daughter of W. W. Grant, of Geneva, New York, devised a plan last summer which served a kindly purpose in two ways. They constructed ninety-eight bird-boxes, and sold them for the benefit of blind and wounded soldiers in Europe. Deducting the cost of the lumber and its sawing into uniform pieces, the profit obtained added $9 to the soldier's fund. As all these boxes were disposed of locally, and were excellently designed, and many were given away in addition to those sold, the birds of Geneva ought to be both happy and numerous next spring. The children got so much pleasure out of their doubly beneficial enterprise that they propose to try it again this winter.

A Community of Albino Robins

Several white Robins have been seen in this vicinity from 1914 to the present, seven or eight having been counted by the Junior Audubon Class of this town. One well-known example has snow-white plumage—not one colored feather. Dr. R. W. Dove of this town relates that in June, 1916, he found a nest containing one brown and two white Robins and observed that they were being fed alike by both the male and female parents. One of those white birds at the present writing is feasting on the mulberries and raspberries in the lot and adjoining lots of the writer. —ALONZO THOMPSON, *Harman, W. Va.*

New Finley Films

Since many churches, schools and other educational institutions are now equipped with moving-picture lanterns, it is important that good films of wild-bird and animal life be available for this educational work. It will not be many years before educational institutions will have libraries of various things illustrated with moving pictures, as now we have libraries for books, manuscripts, and magazines. The National Association of Audubon Societies has been collecting moving pictures to show its various fields of activity, especially in organizing Junior Audubon Societies, showing the children putting up bird-houses, feeding song-birds in winter, and the results accomplished on the big wild-bird reservations in various parts of the country.

William L. Finley, field-agent for the Pacific Coast States, has collected during the past five years remarkable moving pictures of wild birds and other animals. He has been in the field a large part of the time, visiting the big federal wild-bird reservations of the West, and has achieved some wonderful results. Some of these films were shown last year while Mr. Finley was on his lecture-tour through eastern cities. He will be in the East during March to show a new series of moving-picture reels.

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Mr. Finley's work during the past summer has taken him to the great sea-bird colonies off the Oregon coast, then through eastern and southern Oregon for birds and animals in the lake region, and out in the sage-brush country. Some of his best results were achieved on a trip to the top of Mt. Hood with his moving-picture equipment, and also on an extended tour through Yellowstone Park. His assistants have been R. B. Horsfall and Mrs. Finley. He was also accompanied on two trips by T. Gilbert Pearson.

Inasmuch as Yellowstone Park is the greatest refuge in America for wild animals, these enthusiasts had abundant opportunity for picturing bears, deer, antelopes, elks, buffalos, beavers, and various smaller mammals and birds, such as squirrels, marmots, conies, Jays and Clark's Crows. One of the best features of the summer's work has been to show the splendid scenery amid which these animals live. The films that Mr. Finley has prepared for lecture purposes are therefore not only intimate studies showing the wild bird or mammal at home, but they are doubly interesting as travelogues.

One phase of Mr. Finley's work that he considers of great importance is that by which he seeks to interest children in the love and protection of our song birds. His reels showing children of the Junior Audubon Societies building bird-houses are exceptional from an educational standpoint, as also are those of children mothering orphaned Bluebirds and Thrushes whose parents had been killed by a cat. Later these same birds, after they are fully grown and able to fly, are seen bathing and feeding from the hands of the children.

Of the animal series, Mr. Finley has many that are most remarkable, especially that of the home life of the wild antelope in the deserts of southern Oregon. Having discovered a water-hole where these animals were accustomed to drink, Mr. Finley and his companions, Mr. Horsfall and S. G. Jewett, built a blind of sage-brush in which to hide the camera. Entering the blind before daybreak, they spent four days in these cramped quarters, photographing the wary animals as they came within range. By this means good pictures of herds of them were secured, as were also those of hundreds of Sage Grouse that came daily to the water-hole to drink. It is a lamentable fact that through long and cruel hunting the antelope has come to be on the verge of extinction. This picture will undoubtedly tend to secure the preservation of one of the most beautiful of American animals.

The Enabling Act

A treaty between Canada and the United States for united action in protecting migratory birds was concluded on December 7, 1916, but this admirable agreement will have little practical value unless means are provided for making sure that the treaty-regulations are observed. These 'means' are conscientious and capable officers, who must be paid. This payment must come from the Federal Treasury in each country, and therefore requires, on this side of the boundary, an appropriation of money by Congress. A bill for this purpose (H.R. 20080) was introduced by Representative Henry D. Flood of Virginia. It reiterates in detail the provisions of the treaty prohibiting the killing, capturing, sale or purchase, exportation or importation, of any birds to or from Canada, except under regulations to be made by our Secretary of Agriculture; provides for the process of law by which violators may be punished; and appropriates $170,000 for warden-service and other necessary expenses. It is expected that similar action will be taken by the Parliament of the Dominion of Canada. This bill was immediately referred to the Committee on Foreign Affairs, whence it is to be hoped it will be reported speedily.

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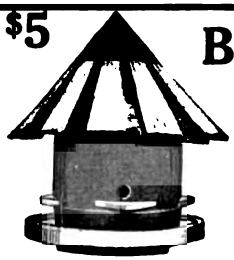

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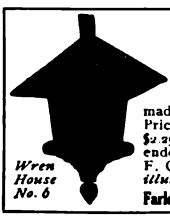

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Bird-Lore

March-April, 1917

CONTENTS

GENERAL ARTICLES PAGE

FRONTISPIECE IN COLOR—BEWICK'S, HOUSE, WINTER, ALASKA, LONG-BILLED MARSH, SHORT-BILLED MARSH WRENS ..... *Louis Agassiz Fuertes*..

THE GREAT BLUE HERONS OF HONEOYE. Illustrated ..... *Verdi Burtch*.. 73

TWO BABY HUMMERS. Illustrated ..... *Margaret S. Hitchcock*.. 79

REDWING ..... *Elsie Elouise Wheeler*.. 81

THE PURPLE MARTIN AT WICHITA, KANSAS ..... *Richard H. Sullivan*.. 83

EVENING GROSBEAKS. Photograph ..... *Mrs. W. F. Barrows*.. 85

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS. Forty-third Paper ..... *Frank M. Chapman*.. 86

NOTES FROM FIELD AND STUDY 88

AN UNEXPECTED VISITOR (Ills.), *H. S. Shaw, Jr.;* A LONG-EARED OWL ROOST, *C. W. Vibert* and *G. T. Griswold;* NOTES FROM SOUTHERN CONNECTICUT, *Wilbur F. Smith;* THE WELLESLEY BIRD-BOX (Ills.), *John C. Lee;* THE STARLING IN BALTIMORE, *J. Hollowell Parker;* LARK SPARROWS NEAR GRAFTON, W. VA., *A. J. Dadisman;* BOHEMIAN WAXWINGS IN SEATTLE, WASH., *J. Dean* and *F. D. Terry;* PRAIRIE HORNED LARK IN MARYLAND, *Edward Harris, Sr.;* SMOKE-TREES AND PURPLE FINCHES, *Mrs. Cuthbert Hall;* IS THE CAPE MAY WARBLER INCREASING IN NUMBERS, *R. E. Robbins;* EVENING GROSBEAK IN ONTARIO, *R. B. Chelton;* EVENING GROSBEAKS AT MORRISTOWN, N. J., *R. C. Caskey;* CARDINAL IN RHODE ISLAND, *H. L. Madison;* PICKEREL CATCHING SWALLOW, *Constance Humphrey;* A WREN'S NESTING-PLACE, *Blanche A. Turner;* HELPFUL YOUNG BLUEBIRDS, *Mrs. George A. Harter.*

BOOK NEWS AND REVIEWS 95

THORBURN'S 'BRITISH BIRDS'; SCUDDER'S 'CONSERVATION OF WILD BIRDS'; FORBUSH'S 'THE NATURAL ENEMIES OF BIRDS'; INGERSOLL'S 'INDEX TO BIRD-LORE'; THE ORNITHOLOGICAL MAGAZINES; BOOK NEWS.

EDITORIAL 98

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT 99

A SUGGESTION FOR BIRD AND ARBOR DAY; FOR TEACHERS AND PUPILS; FOR AND FROM ADULT AND YOUNG OBSERVERS.

EDUCATIONAL LEAFLET No. 91. THE SAGE GROUSE. With Colored Plate by Bruce Horsfall ..... *T. Gilbert Pearson*.. 112

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT 116

THE MIGRATORY BIRD TREATY BILL; HOSTS OF WATER-FOWL IN LOUISIANA; THE AMSTON EXPERIMENT STATION; NEW MEMBERS AND CONTRIBUTORS; NOTES FROM THE FIELD.

**** Manuscripts intended for publication, books, etc., for review and exchanges, should be sent to the Editor, at the American Museum of Natural History, 77th St. and 8th Ave., New York City.*

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1. Bewick's Wren
*2. House Wren
†3. Alaska Wren
‡4. Winter Wren
5. Long-billed Marsh Wren
6. Short-billed Marsh Wren

* Read House Wren † Read Winter Wren
‡ Read Alaska Wren

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XIX MARCH—APRIL, 1917 No. 2

The Great Blue Herons of Honeoye

By VERDI BURTCH
With photographs by the author

DOWN through a deep narrow valley in the finger-lake region of western New York, winds the inlet of Honeoye Lake. About two and one half miles from the lake the valley begins to broaden out and the inlet overflows in springtime on the alluvium and clay beds that it has been bringing in and depositing during the centuries to form an oozy, treacherous swamp. This swamp is covered with a forest of ash, elm, and maple trees, and is full of fallen logs in various stages of decay.

Here the valley is 800 feet above the sea-level and the wooded hills are very steep and rise 1300 feet to 1400 feet above the valley on either side.

In January, 1914, our game-protector told me of the large nests that he had seen in this swamp, and from his description I at once knew that they were the nests of the Great Blue Heron.

May 24, 1914, a charming automobile ride of twenty-four miles over and through the glaciated hills brought us to the upper end of the swamp. Long before we were there we could see the nests of the Herons high up in the dead tops of the ash trees which were above the other trees in the forest. It did not take us long to get into the midst of them, where the great birds were flying to and fro or were perched on or above the nests. They were not nearly so wild as the Lake Lamoka Herons which we visited the year before, for these left the vicinity of the nests as soon as we came among them and after a long time came scouting around only to leave again as soon as they glimpsed us.

These Honeoye birds acted more like our old Potter Swamp birds of twenty years ago, and who knows but that they may be direct descendants of the Potter Swamp birds, their ancestors having moved to Honeoye after Potter Swamp was despoiled of its forest.

We counted seventy-six nests that we could see from the road, and there must have been a few that we could not see. Many of these nests held young and nearly every nest had an old Heron or two either on or above it.

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Some of the trees held as many as four nests, and it was near one of these and another tree with three nests that I climbed a tree and pulled my camera up after me. I had hardly got settled into a fairly comfortable position when the Herons began to return to their nests. A bird came to each nest, and

". . . PERCHED ON OR ABOVE THEIR NESTS"

five birds came to the four-nest tree. From my vantage-point I could see far out over the forest. A few birds were sitting on their eggs, their long necks folded over their backs, but most of them were standing in their nests or on a branch at one side or above them. They would stand thus motionless for a long time, or sometimes after alighting would stand still for ten or fifteen minutes, then walk slowly down the limb to the nest, using the wings to help

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them balance. When an old bird alighted at a nest where there were young, the young would stretch up their heads and make a great variety of grunts and squawks, but as the old one appeared to take no notice of them they would soon subside.

I saw sixteen birds at nests at one time and many others flying about. At one nest a pair stood on each side facing each other with the young sticking their heads up between them—unfortunately it was out of range of my camera.

"THEIR GREAT WINGS FLAPPING SLOWLY"

At another nest a male bird brought a stick to his sitting mate and she took it from him and placed it on the nest.

We went to this herony again June 5, 1915, arriving there at 8 A.M. Before going into the swamp I counted 101 nests that I could see from the road. We found the ferns and other tender plants all wilted down, having been cut by frost a few nights before. The fallen logs were a great help in getting around as the water was quite deep and there were many treacherous places where the mud and water would let one in over his boot-tops.

As on our other visit, the Herons were busy flying to and from the lake or circling around the nests. A dead Heron was hanging by its head high up in a

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tree; probably had been shot and lodged there. Some of the trees with nests were rather close together, and many held two, three, and a few as many as four nests.

Selecting a tree near two trees, each of which contained two nests, I was soon up where I could command a view of nearly the entire herony, and it was certainly a fine sight, nests nearby and far away in each direction. I could see

"THE GREAT BIRDS WERE FLYING TOO AND FRO"

sixty-three nests from my position, and thirty-seven had birds on them or standing on a limb above them. Many birds were perched on the tip-top of the nest-trees, standing motionless like statues outlined against the wooded hill. Birds were coming up the valley from the lake, their great wings flapping slowly, then, as they neared the nest-tree, the legs were brought forward and with a few quick flaps they alighted on the end of a limb, flapping their wings a few times to regain their balance. If there were young in the nest, as there

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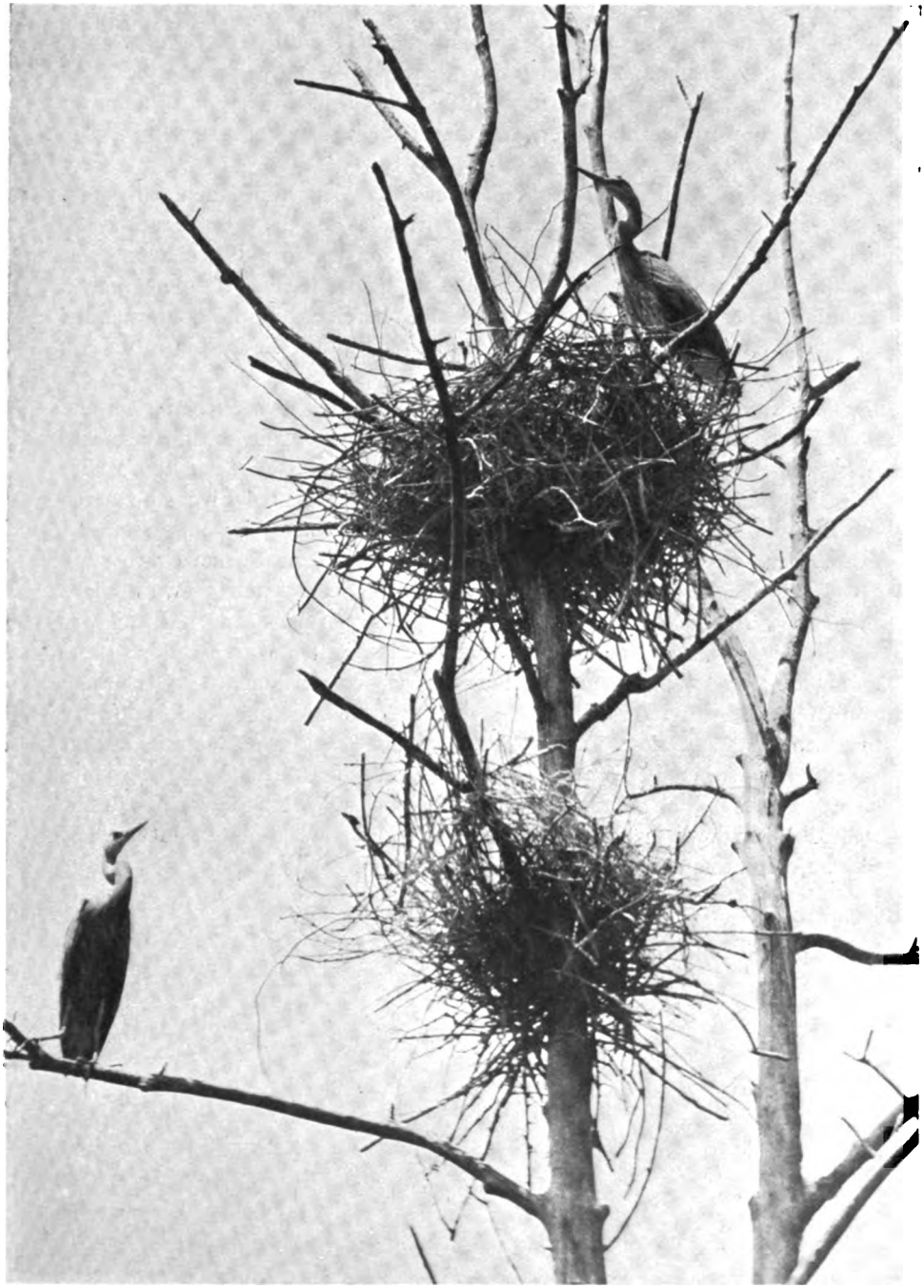

"WITH MY LAST PLATE I GOT MY BEST PICTURE"

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were in nearly all at this time, they would raise their heads and set up a great squawking, crowding and fighting each other and making noises like the barking of a puppy and a whole litter of little hungry pigs. The old birds never seemed to notice them, however, and they soon subsided and settled back in the nest.

The old bird would stand motionless for a long, long time, then, with great deliberation, walk down the branch to the nest. When the parent reached the nest the young would take her bill in theirs and try to pull her down. She usually stood a long time with her head up before feeding the young, then would drop her head when a young one would take her bill into its own as she gave up the food. At other times she would regurgitate the food into the nest and the young would pick it up.

The two nests nearest to me remained empty, their owners coming around many times but each time wheeling and going away again until I began to fear that they would not alight while I was there. Below me the Water Thrushes and Redstarts were singing, and a Great-crested Flycatcher cried out from his perch on the dead top of a tree. Occasionally I would glimpse a Scarlet Tanager as he flashed by through the trees beneath me; Downy and Hairy Woodpeckers and Flickers were working on nearby stubs. Two Mallard Ducks flew over, and a Red-eyed Vireo sang his querulous song. All this was very interesting, but standing with one's full weight on one's climber-spurs and holding twelve pounds of camera is not very comfortable, to say the least, and after I had endured it for over two hours and was thinking of going down, a bird came flapping along to the lower nest and—*click*—she was mine as she sailed up to her perch on a limb beside the nest. Almost at once the other bird came and alighted on a limb above the upper nest. After the usual wait she walked slowly down the limb to the nest, and with my last plate I got my best picture, two nests and a bird standing at each.

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Two Baby Hummers

By MARGARET S. HITCHCOCK
With photographs by the author

IT was on the 13th of June, 1914, that I discovered it. Could it be, I wondered—so tiny a bit of something on the bough, fastened together with cobwebs—could it be that a Hummingbird had condescended to build her nest in our garden? I did not dare look longer then, for fear, if it was really true, that I might disturb the wee, emotional thing. I watched and waited; yes, what joy! When I saw her really busy, coming and going, so fast that on the second day the nest was very nearly finished. On the 19th, I boldly looked inside, and saw one egg, and on the 21st I saw two eggs, when she seemed to be on the nest really sitting. Frequently she left to visit the honeysuckle nearby, but returning in a moment or two. From the first she did not seem to look upon me as an intruder. She was always near, however, generally watching from a favorite perch in an adjoining tree, but never making any protest, and I have seen her many times drive Sparrows well out of the neighborhood of her nest. So I photographed her, when she came three times and looked sharply at the camera pointing at her, then rested on a twig just over the nest, preening her feathers. After about three minutes she came with a dart, hovered over the nest a second, eying me sharply, about four feet from her, and then settled on her eggs as if she did not mind in the least, as long as I was still. But, when I moved away, she flew off, only to return in an instant.

She seemed to become more and more accustomed to my coming and going, but she never stayed on the nest when I came very close.

On the 4th of July, when I peeped in as usual, lo! I saw that one tiny white egg had hatched, and, but for the pulsation, I would have said that the tiny bunch, bare and almost black, and apparently headless, was not alive. It was not until several days later that I saw the wee head and bill, which had been tucked under. I supposed because, perhaps, of the weight of the long bill; but no, nature does not provide the long bill until needed. The bill was no longer in proportion, when first hatched, than other birds' bills.

I suppose the first one was the brother, as he was so much larger than the other; however, this was the only difference between them. On the morning of the 5th the smaller one hatched. The egg-shells disappeared as if by magic. I suppose the little mother carried them quite away. No father made his appearance, not even visiting the honeysuckle nearby. I have not even seen a male Ruby-throat this summer.

On July 12 I took a picture, and again when the baby hummers were two weeks old, but neither shows the little ones very distinctly; they nestle down until only the bill and eyes are visible. On the 22nd, however, they held their heads higher, and the picture shows two tiny heads.

On the 23rd, I resolved, while there was no danger of their flying, to get a

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better picture. I had fed them for several days, a drop of syrup (sugar and water), which they took as freely as they did food from their mother, opening their bills each time. I gently put my finger under the stronger one, when he immediately snuggled in the warm hand, and I carried the tiny baby in front of the camera and snapped his picture. When I placed him back, he was just beginning to tremble —such a baby, I thought! Then imagine my surprise on the morning of the 26th to find this bold little fellow sitting on a bare twig halfway to the top of the larger spruce, more than twenty feet away from the nest, and his little sister all alone below. I immediately photographed her, forcing her to sit on the edge of the nest, which she did not want to do. She seemed rather afraid, but in a moment I put her back in the nest, and all was well until the next morning, when, I suppose, she tried to follow the brother. At an early hour she was in the nest, but at about nine o'clock she was gone.

IN THE HAND JULY 23, 1914

The mother was very faithful; in fact, I discovered where the mites were by seeing her feeding them, when my mind was set at rest about their safety.

I was amazed at their quick intelligence, and at no time more so than when, on coming only the second time with syrup, I found their heads far above the nest, their necks stretched an inch or more. I could not believe it possible that it was for me until I saw

IN THE NEST JULY 25, 1914

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it repeated each day when I brought them the food. I gave it to them only once a day, fearing to interfere too much, so that they remembered from the day before. This I thought most remarkable, considering that they were so young.

Their bills have grown longer, and I noticed, too, they did not protrude the tongue until the day before the first one flew; then they regularly licked the syrup from my finger with the tiny, hair-like tongue.

Today, the 27th, they are so high in the tree I cannot see them, only hear them often. This is reassuring, though I cannot be called even a foster-mother; nevertheless, I would not take anything for the confidence already shown, and I think of Longfellow's poem:

"He giveth you your wings to fly,
And breathe a purer air on high,
And careth for you everywhere,
Who for yourselves so little care!"

Redwing

By ELSIE ELOUISE WHEELER, Meriden, N. H.

NOT the shy little Indian maiden that kept the prairie camp-fires bright for an absent lover, but a brilliant little Warbler, is the Redwing of my story.

One beautiful summer morning, I received a telephone message from a friend that a bird of bright tints was fluttering at that moment, quite unable to fly, in a rose-bush beneath her window. Would I come down and ascertain the nature of its injury and see that it was cared for? "At any minute," she prompted, "the Grimalkin of the Green Eyes may prowl around the hotel corner." Needless to say, I went, though the sun-splashed distance stretched half a mile, and my waiting housework voiced remonstrance.

The bird proved to be a full-grown male Redstart, and I easily caught him and carried him home. One wing drooped uselessly, but no bones seemed to be broken, and I concluded that the bird had flown so violently against some obstruction as to bruise and lame the breast muscles, rendering flight impossible for the time. From the vivid orange flame of his wing markings, I named him 'Redwing.' I placed him in an empty bird-cage and offered him refreshments. I had watched Redstarts in the woods, so I knew what kind of food my guest would relish. I brought my fly-killer and sought the sunny side of the shed.

Thirty house-flies were my first offering, and these were greedily swallowed. For all his stiffened muscles, Redwing was the swiftest bird in motion I ever saw. He would sit on his cage-perch and swing his head downward to pick up the flies, or drop to the bottom of the cage, snatch a fly in his bill and swallow it

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while hopping to his perch again, meanwhile turning and twisting his alert body with inconceivable agility, flirting and opening and shutting his tail. Even in his semi-crippled condition, he was the spirit of animation.

Disliking to be thought inhospitable in my own home, I set before the invalid other thirty flies, and was rather aghast to see them all disappear down the 'red lane with no turning' in exactly ten minutes by the clock.

Was it reproach for niggardliness that looked out at me from Redwing's black, expressive eye? I bethought me of a neighbor's wire fly-trap.

The borrowed trap was baited and set and I went about my housework with lightened responsibility. Pending the filling of the trap, I put into Redwing's cage sections of earthworms, some scraped veal, and bits of suet, but none of these would he even deign to sample. Later in the day the trap was opened, and 400 flies, by actual count, were set as 'a feast before the king.' These lasted Redwing about two hours.

During the first day, though constantly active, Redwing seemed weak and showed little fear of me, eating and drinking when I was close beside him. Dainty and graceful as a butterfly, much more brilliant in hue, and scarcely larger than my thumb, he was the most attractive and interesting visitor that ever gladdened our home.

Being an adult, his habits were formed, and he was untamable. His longing for the wildwood life began to awaken as his wing healed, and the restraint of the cage, necessary to insure his safety, grew constantly more irksome. When I drew near with food, or when hungry, his chirping call rang loud and metallic, otherwise he was silent.

On the second day the patient seemed stronger and became so restless that I transferred him to a larger cage, and on the third day I hung this in an unused chamber where he would be free from molestation. Shortly afterward he began to resent my approach, showing signs of fear when I ministered to his needs; so I placed a dish containing about eight hundred flies in his cage, filled his drinking-cup, and left him as much as possible to the solitude he seemed to desire.

The chamber door has a small aperture through which I could watch him without being seen, his actions becoming more natural when he considered himself free from observation. High up in one end of his cage was a perch, and at the other end was one near the bottom, in close proximity to his food. One day I watched him unobserved, for fifteen minutes, and he hopped and flirted from the high to the low perch and back 236 times, usually taking a fly or a sip of water every fourth trip.

After leaving him for an hour, I came back to my concealed post of observation and took 'tabs' on his doings for fifteen minutes more. This time he made the round trip, by actual count, 311 times, taking a fly or a drop of water, as before, about every fourth trip. At this rate, Redwing would consume

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about two thousand flies a day, and while he was in my care he kept to about that average.

With such an established record for insect-eating, of what incalculable value are Redwing's innumerable kinsfolk to the orchardist, to the agriculturist and to the lumberman, in their consumption of untold numbers of destructive caterpillars and other insects!

Late one afternoon, when my dainty feathered guest flew about so actively that I believed he would now be able to care for himself, Redwing and I took the path to the woodland together. In the gnarled hillside orchard, a favorite Warbler haunt, I photographed Redwing in his cage and then set him free. With a few exultant notes he flew by short stages through the orchard, up the hillside, and met the descending night in the dim mosaics of the woodland.

The Purple Martin at Wichita, Kansas

By RICHARD H. SULLIVAN, Wichita, Kansas

THIS beautiful summer resident, *Progne subis*, is probably the most sociable of the community birds that visit the temperate regions of eastern North America during the nesting season. I say 'beautiful' because of its symmetry and elegant poise in flight, and particularly because of its inviting insistence that the bleak, somber, wintry days should go, and that the greening, with its varied chorus from other feathered throats, is come. Indeed, his friendliness is in direct contrast to the remarkable indifference of civilization, whose habitations he frequents while performing a positive service, for which he receives little or no return, except in death by the shotgun, as voluminous evidence will show.

I have been building houses and shelters for Martins, Wrens, Bluebirds, Chickadees, and other birds, for forty years, or ever since I was big enough to build anything, and the first of these birds has always appealed to me as approaching the ideal, with the sprightly little Wren as a close second; for both species consume many times their weight in the noxious insect enemies of mankind. At the same time, their general attitude is so cheerful and friendly that one might be excused in wanting them around all the time.

When I came to Wichita from Colorado, in June, 1905, a careful watch was kept to observe Martins as the train moved eastward. The first note was heard at Dodge City, 150 miles to the westward of this city. Upon arrival, sixteen large and small colonies were found in the down-town district, and several in the residence sections, with a total of about seventy-five pairs, as a rough estimate. I have kept a record of their arrival and departure in season since that time, and find that there was apparently an increase up to the summer of 1911, when they seemed to be somewhat less numerous.

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Dates of arrival and departure:

Year	Spring	Summer and Autumn
1905	———	August 15
1906	April 14*	August 25
1907	March 11	August 31
1908	March 27	August 19
1909	March 25	August 12
1910	March 22	August 22
1911	March 30	August 28†

For various reasons, a Martin-house was not erected until the early spring of 1908. It was a common box with six compartments, placed upon the roof of a five-story office building. That summer, five pairs of Martins brought their young to wing from this home.

With preparations for removal of offices to a higher building in the late winter of 1908, another and much more elaborate house was planned. It is a sort of bungalow or resort-hotel pattern, and contains forty-six rooms, most of which are 4 by 4 by 6 inches in size, with 2.5 by 3-inch openings. The old box was removed and set underneath this new hotel, which was placed upon a framework about four feet above the roof, 107 feet above the ground. It was painted white and green, and the total expense for house, platform and erection was nominal.

During the summer of 1908, four pairs nested in the old box underneath and six pairs in the new hotel. All of these brought their young to wing, and thirty-six birds left the new house for the South in August. This was considered a very good beginning.

It was with a good deal of satisfaction that I found that eighteen pairs of birds has nests in my little hotel in May, 1909. Then followed trouble for the birds and disturbance of my peace of mind. For some reason, unknown at the time, the birds began visibly to decrease before full complements of eggs had been laid. Careful examination disclosed no vermin. It was later found that the desertions were due to nightly visits of marauders who gained access to the roof by the fire-escape, and also to molestation by visitors from adjoining roofs. As a consequence, but six pairs brought young to wing. During the following autumn, a total of twenty-seven eggs were taken from the several rooms, some nests having one egg, some three, and some six.

In the spring of 1910, the same trouble was experienced, fourteen pairs nesting and but three bringing young to wing. I then determined to remove the house to my home in Fairmount, a college suburb, three and five-tenths miles from the original site, in the hope that a few stragglers in the neighborhood might be induced to colonize there. The house was placed on a heavy pole, 18 feet above the ground, and gourd vines were started to present a home-like, inviting appearance. The House Sparrows appropriated the accommodations within two days after the work was finished, in March, 1911.

*Sick in bed for a month after March 7.

†Austin H. Larrabee, Professor of Biology in Fairmount College, has a date for a female Martin of October 4, 1911.

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Then began a relentless warfare against this persistent and pugnacious creature. So fiercely were they persecuted, to make way for better birds, that if a Sparrow saw a member of my family stoop to the ground, he would 'dig out.'

But the nesting season passed without Martins.

During May I discovered that a pair of Sparrows had built a nest in one of the rooms, the female having peculiar markings. Five eggs were destroyed from this nest, and in a few days another nest was begun on the other side. The process of destruction alternated from time to time until the close of August, when it was found that fifty fresh eggs had been destroyed. And I verily believe that they were all laid by the same female.

The warfare will be reopened next month, when the obstructions are taken from the openings. One scheme employed last year was to put tappers in two small milk-cans and adjust the cans as cow-bells out of sight under the house, with strong string or wire running thence to the pantry window. A jerk of this string always emptied the house of Sparrows.

During last autumn large numbers of migrating Bluebirds stopped and investigated the accommodations of this hotel, supposedly with a view to future engagements; but I shall take care of them with another bird-house.

Another Martin-house of moderate size will be put up this spring on the present office building, which has an inaccessible roof 134 feet above the ground; and I am almost certain of a colony there, even though the trial at Fairmount may still be unsuccessful.

EVENING GROSBEAKS AT PITTSFIELD, MASS.
Photographed by Mrs. W. F. Barrows

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Notes on the Plumage of North American Birds

FORTY-THIRD PAPER

By FRANK M. CHAPMAN

(See frontispiece)

As Mr. W. DeW. Miller has remarked in discussing the plumage changes of the Wrens figured in BIRD-LORE for December, 1916, the sexes in this family are alike in color or essentially so. After the postjuvenal molt, the young bird is distinguishable from the adult only by slight differences in the wings and tail which are not renewed at that molt, and subsequent changes in the color of the plumage are due only to wear and fading. But if the Wrens vary but little with age, sex, or season, many of the species vary geographically, and those which have a wide range are usually represented in it by a large number of local races or subspecies which, in their color and size, exhibit the effect of the existing environment.

Bewick's Wren (*Thryomanes bewicki*, Fig. 1).—The nesting (juvenal) plumage has the breast mottled or indefinitely spotted with blackish, but these markings are lost at the postjuvenal molt, after which the young bird resembles the adult.

Bewick's Wren is found throughout the greater part of the United States (though it is only locally common east of the Alleghanies), and is consequently subjected to a wide variety of conditions to which it responds by more or less evident racial variations in color and size.

Mr. H. C. Oberholser in a review of this group published in 1899 (Proc. U. S. N. M., XXI, pp. 421–450) includes eleven forms of Bewick's Wren from the United States, Lower California, and the islands of the Pacific coast, but of these the 'Check-List' of the American Ornithologists' Union (1910 Ed.) recognizes only eight. In the latest paper on these Wrens, however, Mr. H. S. Swarth describes no less than eight races from California alone (Proc. Calif. Acad. Sciences, VI, 1916, pp. 53–85).

Fortunately, these Wrens are as a rule non-migratory, and one therefore rarely finds two races in the same locality. Field identification, therefore, so far as subspecies is concerned, is more a matter of geography than of ornithology. So far as *species* is concerned, Bewick's Wren may be readily distinguished from the House Wren by its white or buffy superciliary line, by its longer tail, larger size and other characters. Our figure, based on the eastern race, is somewhat too rufous and the superciliary line is more buffy than is usual. The western races are grayer, less reddish brown above.

House Wren (*Troglodytes aëdon*, Fig. 2).—The juvenal plumage differs from that of the adult in the blackish mottling of the breast, but, as with Bewick's Wren, these markings disappear with the postjuvenal molt. It also agrees with that species in having no spring molt, and the breeding plumage is essentially like that worn in winter.

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The House Wren ranges from Cape Horn to Canada. Several specific and many subspecific names are applied to it in this wide area, but one has only to see the birds and hear them sing, whether in South America or North America, to be convinced of their close relationship.

In the United States we have only two races, *Troglodytes aëdon aëdon* of the East and *Troglodytes aëdon parkmani* of the West.

Winter Wren (*Nannus hiemalis*, Fig. 3).—The nestling Winter Wren has the breast mottled or margined with dusky, and the presence of these markings in connection with the barrings on the flanks make the juvenal plumage quite unlike that of the adult. Only the flank markings are retained at the postjuvenal molt, after which young and old are alike in color. There is no spring molt, and the summer plumage is essentially like that of winter.

Three races and two closely allied 'species' of the Winter Wren are known in North America. *Nannus hiemalis hiemalis*, the Eastern Winter Wren, ranges westward to Alberta; *N. h. pacificus*, the Western Winter Wren, is found from western Alberta to the Pacific coast; and *N. h. helleri*, the Kadiak Winter Wren inhabits Kadiak Island.

Alaska Wren (*Nannus alascensis*, Fig. 4).—The Alaska Winter Wren is a representative form of the Winter Wren found in the western part of the Alaska Peninsula, the eastern Aleutian Islands, and St. George Island of the Pribilof group. It differs from the Winter Wren chiefly in having a slightly longer bill; below, it more nearly resembles the Western Winter Wren in color, while the upperparts are more like those of the Eastern Winter Wren.

The Aleutian Wren (*Nannus meliger*) represents the Aleutian Wren in the Western Aleutian Islands.

Long-billed Marsh Wren (*Telmatodytes palustris*, Fig. 5).—The nestling Long-billed Marsh Wren has the crown and foreback black without white streaks and is thus quite unlike the adult in appearance; but after the postjuvenal plumage, old and young wear the same kind of plumage. In Dwight's opinion, there is a complete prenuptial or spring molt in this species.

Five races of this species are known, as follows: (1) *Telmatodytes palustris palustris* of the northeastern states; (2) *T. p. marianæ* and *T. p. griseus* with a not fully understood range in the southeastern states; (3) *T. p. iliacus* of the "plains and prairies of central North America;" (4) *T. p. plesius* of the "arid interior of North America;" and (5) *T. p. paludicola* of the Pacific coast.

Short-billed Marsh Wren (*Cistothorus stellaris*, Fig. 6).—I have seen no specimens of this species in nestling plumage. In the nestlings of *Cistothorus apolinari*, a species from the Andes of Colombia, the streaks of the upperparts are nearly obsolete. According to Dwight, the young of our species after the postjuvenal molt cannot be distinguished from the adult, and there is a complete spring molt. There is only one species of Short-billed Marsh Wren in North America, but closely allied species are found as far south as Argentina.

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Notes from Field and Study

An Unexpected Visitor

When I came downstairs at about six o'clock in the morning on September 16, I was astonished to see a Screech Owl sitting on a radiator in the front hall. My first thought was that someone had put a stuffed bird there as a joke, but I realized at once that he was alive, because he turned his head when I moved to one side. I called to my wife, and she came down to see our visitor, who did not seem to be at all disturbed at our presence. I then got out my camera and took some pictures, one of which is reproduced herewith. Nearly an hour later I went to the house of a neighbor, and got him to come over with his camera. The Owl had remained in the same place all this time, and I found that I could get close to the radiator without disturbing him. But finally, when I stood with my hand on the radiator, within a few inches of the Owl, he became alarmed and flew into an adjoining room. He struck against a mirror and dropped onto a table, where he sat on a pile of books, looking very wise indeed. He did not remain long, however, but flew to my camera, which was standing near-by. After my friend had taken his picture in this position we decided not to keep him in the house any longer, so we opened the door, and he flew silently out, being lost to view in some near-by woods.

We think the Owl must have come down a chimney into a fireplace, as there was apparently no other way in which he could have gotten in.—H. S. Shaw, Jr., *Dover, Mass.*

SCREECH OWL
Photographed by H. L. Shaw, Jr.

A Long-eared Owl Roost

What is believed to be an unusual observation was recorded by the undersigned on February 4, 1917, in Goodwin Park, in the outskirts of this city. A telephone message in the morning communicated the

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news that what was supposed to be a Long-eared Owl had been seen the previous day. This Owl is not at all common here, and so we decided to see for ourselves and verify if possible the earlier observation. Soon after arriving near where the bird had been seen, we found under a clump of small hemlock trees an estimated quantity of not less than four quarts of pellets, many of which will be gathered and sent to Washington for inspection. This in itself was something never before seen by either of us, notwithstanding one of us has been hunting birds for a great many years and has seen so-called 'flights' of Owls and many pellet collections.

A few minutes later one of us discovered in an open-topped pine tree, not more than twenty-five feet from the ground, a single specimen of the Long-eared Owl. Not daring to move for fear the Owl would not be seen by us both, the discoverer of the bird did not stir until joined by his companion, who, upon being shown where the single Owl was roosting, quickly exclaimed "There are two, yes three, four, five, six, seven, good heavens, how many?" Just then the flock rose and we counted eight, and another flew out of a tree ten feet away. We were so astonished by our find that we almost lost sight of still another Owl who had remained behind. To see ten Long-eared Owls, and nine of them in a space not more than six feet square in a single tree, is something of an experience, even to us who have been field-students for upwards of forty and thirty years respectively. We do not find evidence in any book record that shows even half this number being seen in a single flock in the state of Connecticut.–C. W. Vibert, G. T. Griswold (Hartford Bird Study Club), *Hartford, Conn.*

Notes from Southern Connecticut

The past year was remarkable for the flight of Warblers, and the large numbers of Bay-breasted and Blackburnian Warblers, and the occurrence of certain rare species, the following records of which should be of interest:

Holbœll's Grebe.–March 19, one at Norwalk; March 24, five at Rowayton; April 15 and 20, one at Norwalk.

Ring-billed Gull.–Though called a rare migrant in the 'Birds of Connecticut,' the writer believes this to be a fairly common, though not generally found species. Several birds were seen in the spring of 1916. September 13, 1916, one was shot over the Housatonic River at Stratford, and is in the Museum at Birdcraft Sanctuary. December 11, 1916, one was shot by duck-hunters at Stratford, and is in the writer's collection. Jan 13, 1917, one was seen feeding in Bridgeport Harbor.

Laughing Gull.–These Gulls have increased during the past few years until last fall they appeared in flocks of over one hundred among the islands off this place.

Bonaparte's Gull.–A flock of about fifteen of these Gulls stayed on the Housatonic River at Stratford from September 7 to 13. One that was shot is in Birdcraft Museum at Fairfield.

Wilson's Petrel.–The 'Birds of Connecticut' says of the Wilson's Petrel (page 26): "We have no specific records of this species," yet these Petrels have been fairly common in the Sound off this place for some years to the writer's knowledge, coming in among the islands at times, and once in the harbor. The lobster fishermen tell me that these Petrels help them to locate their buoys by sitting on them. I have counted twenty in two hours. One shot August 7, 1914, is in the collection of the Fish and Game Commissioners, and one was taken by a member of the Biological Survey the past summer.

King Eider.–One shot at Fairfield Beach on December 14, 1916, by Mr. Leon Beardsley, is mounted in Birdcraft Museum.

Killdeer.–Apparently these birds are coming back to breed in these parts for I saw a pair with nest completed at Wilton on June 10, 1916, and Mr. Herbert Sniffens tells me that a pair raised a brood on his farm at Stratford. In August they were plentiful on one of the ponds that had been drained.

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EVENING GROSBEAK.–Eight birds were in Norwalk from March 8 to 13, 1916. They were seen by many and were feeding on hacmatack berries.

LAWRENCE'S WARBLER.–On May 12, 1916, a male was observed at Waterbury, and on May 20, another male was found at Wilton. It was feeding near the ground in willows and was very tame. A party of fifteen people watched it as long as they cared to do so at a very close range. Believing it to be a migrant, no effort was made to watch it further, but Mr. Edward Godfrey, one of the original party, passing the place in June found a Lawrence Warbler feeding young in the same field where we found this one on May 20, and it may have been the same bird.

MOCKINGBIRD.–One lived about the residential section of Bridgeport all last winter, and I photographed it on March 21 in its haunts.

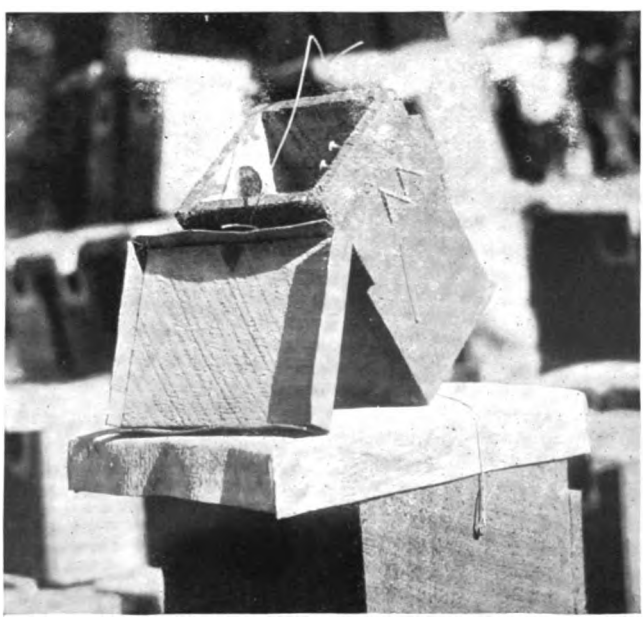
'ACADIAN' CHICKADEE.–One found by one Abbot, identified by Mark Candee, and showed to me on January 11, 1917, has been in the same locality since and was seen by many people on January 18, 1916.—WILBUR F. SMITH, *South Norwalk, Conn.*

The Wellesley Bird-Box

Many people would take greater interest in encouraging the native birds if most of the equipment now to be had on the market were not quite so expensive. Simple forms of feeders and bird-boxes seem to be quite as efficient as the more elaborate.

If in any community it is desired to introduce a large number of bird-boxes at low cost it is only necessary to settle on some simple design and have them made at the nearest box (packing-box) factory.

The plan can be carried out by an indi-



THE WELLESLEY BIRD-BOX

Dimensions of stock, top, 5 x 6½ inches; front and back, each 5 x 7½ inches; sides, 4 x 7½ inches; bottom, 4 x 4 inches. The box is put together with 1¼-inch galvanized box nails. The roofing-paper and entrance guard fastened with ½-inch galvanized tacks. The top of the box is removable, but is held in position by a piece of galvanized No. 16 soft iron wire looped over a tack on each side. Two holes about one inch apart are bored in the upper part of the box in a downward direction from the inside so that when the cover is off, the box can be nailed to a post or tree with 2¼-inch galvanized wire nails. To be stained any dull neutral shade.

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vidual or by a local Audubon Society, and the boxes distributed at cost to those who want them. The box factories will make the cost extremely low provided they can deliver them by truck, unpacked, at one point.

I tried the experiment with a lot of one thousand and it worked so well that I have ordered more. They cost fifteen cents each. The style adopted, which I tested with success during the past year, is outlined in the accompanying photographs. The top of the box is removable for cleaning and all nails, tacks, and other metal parts are of galvanized iron.

To distinguish the box as a type I have called it the 'Wellesley Bird-Box.'—JOHN C. LEE, *Wellesley, Mass.*

WELLESLEY BIRD-BOX IN POSITION

A guard of thin galvanized iron surrounds the entrance. For Bluebirds and Swallows the opening should be one and one half inches in diameter; for smaller birds one and a quarter inches

The Starling in Baltimore

I do not know how close a watch is being kept on the spread of the European Starling throughout our country from the point of introduction in New York, nor how far it has already made its way. I suppose that Starlings have been reported from points further south than Baltimore, but I send you the following item for what it may be worth:

A flock of European Starlings, containing several hundred individuals, has been roosting at night for an unknown length of time in a row of sycamore trees on Mt. Royal Avenue bordering the sunken gardens and overlooking the Union Station and the surrounding railroad yards. That row of trees has for several years been a roosting-place for thousands of English Sparrows during the winter months, and it is possible that the Starlings were there for several nights before being noted, although I pass that place practically every evening during the week. My attention was first attracted by unfamiliar notes on the evening of January 16, 1917, and subsequent investigation proved the presence of a large number of

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Starlings. The Starlings have been noted there every evening since that date except on January 21, when I did not pass the place. Since last fall I have occasionally seen a few Starlings, from one to five at a time, in the parks and suburbs of Baltimore; but this is the first time I have known of such large numbers coming right into the heart of the city.—J. HOLLOWELL PARKER, *Baltimore, Md.*

Lark Sparrows near Grafton, W. Va.

On June 18, 1916, two adult and two young Lark Sparrows were seen in an orchard about eight miles north of Grafton. The birds were flying about in the orchard and seemed perfectly contented. Two young birds were in the trees. The young birds were being fed by the adult birds. The young birds had evidently been hatched in the orchard or near-by. There might have been more young birds but only two were seen. These were the first Lark Sparrows known to have visited this section of the country. I feel sure that I have never seen them before. We were able to identify the birds as we could get within thirty feet of them. I was in this part of the country but one day, and there was no one else to observe the birds later. A month afterward I was in the same orchard and no trace of the birds could be found.—A. J. DADISMAN, *Morgantown, W. Va.*

Bohemian Waxwings in Seattle, Wash.

Bird-lovers of this section, especially those along the lake-shore of this city, have been treated to a rare sight which we feel will be of interest to the friends of birds everywhere. It was the presence of Bohemian Waxwings by the thousand! The birds, accompanied by Cedar Waxwings, and by hundreds and hundreds of Robins (the latter flying in flocks by themselves but following, apparently, wherever the Waxwings led), were first seen on the morning of December 30, 1916, when they were noticed flying south. At intervals thereafter, usually in the forenoon, these birds returned, and always, when in our immediate vicinity, settled on tree and house-top or even on telephone wires, from which resting-places they made frequent excursions into the numerous madrona trees around. The berries, of course, were the objective. While thus engaged they afforded us excellent opportunities for observation. Indeed, so close could we get that it would have been possible more than once to simply reach out and stroke the Bohemian's smooth plumage, but the Robin was less trusting. Though some of his number were always equally within reach, they were constantly giving warnings which would cause big numbers of all the birds to suddenly fly away, apparently in fear. But always they returned. And always the Bohemians seemed to be more numerous than the Cedar Wax-wings, or the Robins. Since the Bohemian is supposed "not to come into this vicinity," officers and members of our local Audubon Society were disposed to be suspicious of our identifications on the first reports, but fortunately several of them had occasion to see for themselves and verify our statements now.

Why the birds came is a mystery. No one versed in bird-lore here will take it upon himself to hazard an interpretation of the phenomenon. If it was food they came for, they left before the supply was much decreased, for there are madronas and alder trees whose berries are still untouched. And if the South was their intended destination, why did they go north again? The last flocks, numbering several hundreds, were seen for the last time on January 9, in the morning, and after much calling, in the familiar lisping way, and no end of circling about (but no feeding at all) they went back into the North.—J. DEAN and F. D. TERRY, *Seattle, Wash.*

Prairie Horned Lark in Maryland

The notes of Mrs. Arthur F. Gardner, of Troy, N. Y., in your July–August, 1916 number on the Horned Lark, remind me of some observations made here in western

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Maryland on the Prairie Horned Lark which seem to show that they breed in this region, although I believe their nests have not been found.

In the Maryland Geological Survey of Allegany County, published in 1900, there is a list of summer birds of western Maryland by Edward A. Preble. He says of the Prairie Horned Lark: "While driving through Garret County [the western County of Maryland], on May 18, I saw a male bird of this species. He was on a fence-rail, singing lustily, and was not at all shy. It was near the town of Accident, about ten miles from the northwestern corner of the county. There can be little doubt but that the bird was breeding." On this page of the report I have noted: "August 26, 1911. Saw a flock on barren hill east of city. Did they not breed somewhere in this region? August 24, 1912. Same locality. Again this year I note, June 23, 1916. The same locality." Rev. Mr. Eifrig, formerly of this city, a well-known ornithologist and naturalist, in a list of local birds, writes as follows of the Prairie Horned Lark: "Often seen in flocks on hills and roads in this vicinity, along with Juncos, Tree Sparrows, and so forth. Breeds in the higher parts."

My idea has been that they breed in the open 'glades' near Oakland and Mountain Lake, Garrett County. These observations seem to show that they are extending their breeding-range, which has, until recently, been recorded as the prairies of the Middle West eastward to northern New England. It may have ranged eastward and southward as the country became open and more deforested.

I shall look out for them another season and see if we can positively find their breeding habitat.—Edward Harris, Sr., *Cumberland, Md.*

Smoke Trees and Purple Finches

The seeds of a group of six 'smoke trees,' near my house at Westport Point, southern Massachusetts, are sought before they are fully formed by a flock of Purple Finches and feasted upon as long as they last. It is a curious fact that we never see these Purple Finches at any other time. We do not know where they live, but they have come to these same smoke trees every August for more than twenty years.—Mrs. Cuthbert Hall.

Is the Cape May Warbler Increasing in Numbers?

Have any of your readers, I wonder, observed a marked increase, within the last two or three years, in the number of Cape May Warblers migrating through this country? My own observations of that species are striking evidence of such an increase. In more than fifteen years of bird-study, covering a very large area in northeastern United States, I had not succeeded, previous to 1914, in recording a single Cape May; whereas, in the two and a half years since April, 1914, I have recorded about twenty individuals of that species, at widely separated times and places, in the states of Maine, Massachusetts, and New Hampshire. Such an experience seems rather significant.—R. E. Robbins, *Brookline, Mass.*

Evening Grosbeak in Ontario

Having read many articles in Bird-Lore concerning Evening Grosbeaks which have been seen in many parts of the country, I thought that it might be of interest to you to know about a flock that has annually visited this town for the last four years. The flock consists of about fifteen males and females, and they feed on hawthorn berries and the seeds of the hard maple, seeming to prefer the latter. They are now more common than the Pine Grosbeak, of which species I have not seen a specimen for two years, although they used to be regular visitors.—R. B. Chelton, *Cobourg, Ont.*

Evening Grosbeaks at Morristown, N. J.

On December 16, 1916, I saw my first Evening Grosbeak. It was a single individual, a male and was near the top

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of a tall maple. A few days later two of my neighbors reported that they had seen a single one in the same vicinity. About the middle of January a report came to me that a flock of seven or eight had been seen in the Sherman Hill section of the town, and on January 25 and 26 I saw a flock of about the same number feeding on sumach berries in a vacant lot just in the rear of my yard. I did not see them again until February 16, when a flock of about ten birds was seen in a black locust at the end of my garden. A short article was published in one of our local papers and since then several reports have come to me of others having seen these birds.

Pine Siskins were seen here during November, but seem to have passed on. Redpolls are common. In the course of a two-hours walk this afternoon, I saw probably 100. Two Canadian Nuthatches have been daily visitors to our suet since the latter part of January.—R. C. CASKEN, *Morristown, N. J.*

Cardinal in Rhode Island

During the past week the Cardinal has been reported as seen at Warren, R. I. So far as I am able to ascertain this is the first record of the state.

The bird is a female and is in and around the grounds of the home of Mrs. Albert E. Leach, who first saw it on Tuesday, January 23, at about 3 P.M. At that time she had it under observation with glasses for about five minutes. On January 29, Mrs. Leach, with three others, Miss Mary Crowell, Miss Elizabeth Freeborn, and Miss Virginia Reynolds, had the bird under observation for about thirty minutes, and the same parties saw the bird again on January 30.

This is the first time Mrs. Leach had ever seen the bird, but the other three persons know the bird intimately in the South where they have had them feeding at their windows in other years.

I have not found time to go to Warren and verify these observations, but the above-named persons are good amateur observers, and in consideration of the fact that three of them are familiar with the bird, I feel safe in reporting it as a new record in Rhode Island.—H. L. MADISON, *Curator Park Museum, Providence, R. I.*

Pickerel Catching Swallow

Some of my friends were fishing on a little lake near here. A Swallow was skimming over the lake very near the water, and a pickerel jumped up and caught the bird in its mouth. No one here has seen such a thing happen before. —CONSTANCE HUMPHREY, *Kalamazoo, Mich.*

A Wren's Nesting-Place

At our country-place, the outside bathroom is not put into use until sometime in May. This spring the pipes were connected the last week in April, and our caretaker unintentionally left the door ajar. When I arrived about the 8th of May, to open the house and put all in readiness for the summer, I found someone ahead of me who had already put her house in order and had established herself comfortably. It was a House Wren, who had taken advantage of the open door, and was satisfied not only on the lower shelf of the little cabinet that hangs over the tub, but built her nest right upon my empty soap-dish.—BLANCHE A. TURNER, *Arcadia, Mo.*

Helpful Young Bluebirds

A pair of Bluebirds successfully raised a brood in our bird-house in May, the young birds leaving the nest the third of June. After several days, the parent birds built a nest in a similar bird-house in a neighbor's yard and raised a second family.

We were interested to observe that the young birds worked with the parents in carrying food to the latest fledglings, also in cleaning the nest. When the second brood left the nest, the 'big brothers' seemed as excited as the parents.—MRS. GEORGE A. HARTER, *Chicago, Ill.*

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Book News and Reviews

BRITISH BIRDS. Written and illustrated by A. THORBURN, F. Z. S., with eighty plates in color, showing over four hundred species. In four volumes. 4to. Vol. III, plls. 41—60; Vol. IV, plls. 61—80. Longmans, Green & Co., London and New York.

The appearance of Volume IV marks the completion of this superb work. A noteworthy undertaking under any conditions, its manufacture and publication in England at this time is a tribute to everyone who has been engaged in its production.

In these final volumes, the work of artist, engraver, and typographer shows no falling off from the high standard of excellence established by Volumes I and II. We have had no illustrations of birds published in America which would compare favorably with the plates in this work. There have been state publications where the question of expense was not of primary importance and the best available methods of color engraving were employed, but the results were far below those attained in the volumes under consideration.

Rumor has it that a fully illustrated book is to be published by a state in which there is a greater *per capita* interest in birds than in any other in the Union. We trust that in selecting an engraver of the drawings for this proposed work, the reproductions in Mr. Thorburn's volumes be exhibited as models to be followed as closely as circumstances will permit.

Volume III treats of the Herons, Ducks, Geese and Swans, Pigeons, Gallinaceous Birds, Rails and Coots.

We suppose it is hopeless to expect English writers to employ names for American birds by which they are commonly known in this country, and consequently need not be surprised to see our Sora entered as 'Carolina Crake' (the bill, by the way, in the figure of this species is basally red instead of yellowish green).

Volume IV contains the Bustards and Cranes, Shore-birds, Terns, Gulls, Auks, Divers, Shearwaters, and Petrels.

The total number of species figured in the four volumes is somewhat over four hundred. To give a plate to each species would have involved a prohibitive expense. Only by placing a number of species on the same plate was it possible to produce a work of this character at a reasonable price. It must be taken for granted, therefore, that the requirements of commercial publication have imposed certain restrictions on the artist for which he is not responsible. The artist, therefore, should not be criticized for an arrangement beyond his control. Rather should we accord him our praise for the skilful and artistic manner in which he has met and usually conquered difficult problems of arrangement and grouping with a result which rarely fails to produce a pleasing whole, while the individual figures, with but few exceptions, portray form, color and character in a wholly accurate and charming manner.—F. M. C.

CONSERVATION OF OUR WILD BIRDS. Methods of Attracting and Increasing the numbers of Useful Birds and the Establishment of Sanctuaries. By BRADFORD A. SCUDDER, Secretary, Massachusetts Fish and Game Proc. Assoc., 748 Tremont Bldg., Boston, Mass., 1916. 71 pages; line cuts.

This is a useful manual on those phases of bird protection which so fortunately are interesting a constantly increasing number of bird-lovers throughout the country. After giving a list of the birds which may nest about our homes, Mr. Scudder tells us what steps are necessary to induce them to take up their abode near ours and describes in detail various types of nesting-boxes, bird-baths, and feeding devices. There is also a chapter on planting food-bearing trees, shrubs, vines and plants for land birds and also one on planting for aquatic birds. Practical suggestions are given for the establishment of bird sanctuaries on which the author emphasizes

For reviews of Vols. I and II, see BIRD-LORE.

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the "importance of not relaxing for a moment the campaign of extermination that must be waged against the enemies of wild life found within the borders of a sanctuary."

Under the head of 'Enemies of Wild Birds' he returns to this same subject and says: "We may never hope to increase the numbers of our useful birds and quadrupeds until their natural enemies and other distinctive agents are either largely removed or reduced to a minimum."

This statement is modified somewhat in succeeding pages, but Mr. Scudder apparently favors more interference with nature's balance than Mr. Forbush advocates (see succeeding review), if we would increase the numbers of song-birds about our homes. Books of this kind cannot have too large a circulation.—F. M. C.

THE NATURAL ENEMIES OF BIRDS. By EDWARD HOWE FORBUSH, State Ornithologist. Economic Biology, Bull. No. 3, Mass. State Board of Agriculture, Boston, 1916. 58 pages; 17 plates.

Our attention has been so focused on the unnatural enemies of birds that we have given comparatively little thought to their natural enemies. Mr. Forbush's paper is therefore a welcome addition to the valuable series on economic ornithology for which we are already indebted to him.

Under the head of 'Introduced Domesticated Enemies' are included the cat, dog, hog, grazing animals, and rat. To these are added the following 'Feral Enemies': Fox, mink, weasel, skunk, raccoon, red, gray and flying squirrel, chipmunk, muskrat, meadow mouse, deer mouse, deer, Shrikes, Grackles, Blue Jay, Crow, Hawks, Owls, and Eagles, while some Gulls, Herons, Wrens and other species are classed as 'Minor Bird Enemies.'

'Introduced Bird Enemies' are the English Sparrow, Starling, and Ring-necked Pheasant and the list is completed by the addition of the snapping turtle, several species of snakes, frogs and fish and, finally, various species of insects which are said to be potentially the greatest enemies of birds.

Against this array of foes it might be imagined that few birds would live to reach maturity, but Mr. Forbush shows how strictly natural enemies, and this excludes introduced species, are necessary to maintain that balance of life which prevents any one species from having an undue advantage over others and thus, in time, overrunning the country in which it lives.

He does not approve, except under certain special conditions, of attempting to control the natural enemies of birds, and he shows the futility of bounties. His studies are summed up in the following conclusions: "(1) Natural enemies of birds are necessary and desirable, as they tend to maintain within proper bounds the numbers of the species on which they prey. (2) Organized attempts to increase the numbers of birds over large areas by destroying indiscriminately all natural enmies are undesirable. (3) Under certain circumstances enemies which have been able to adapt themselves to man and his works and have become unduly numerous may require reduction in numbers. (4) Individuals of useful species which may become particularly destructive should be eliminated. (5) Self-interest on the part of the people most concerned eventually will bring about such reduction of predatory animals as is needed without the stimulus of bounty laws, which in most cases are pernicious and which, if enacted at all, should be directed only against the larger predatory animals or those which are dangerous to human life or exceedingly destructive to domestic animals or crops." —F. M. C.

AN INDEX TO BIRD-LORE—Vols. I—XV, inclusive. Compiled by ERNEST INGERSOLL. For sale by the National Association of Audubon Societies. Price, 50 cents.

A glance through this useful work of reference impresses one who has been fairly familiar with the contents of BIRD-LORE, with the richness of the store of information which is to be found in a set of this magazine. Aside from the hundreds

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of colored figures, over 2,000 photographs of birds have been reproduced, with a corresponding wealth of descriptive matter. We should be grateful to Mr. Ingersoll for making all this material so readily available.–F. M. C.

Ornithological Magazines

THE AUK.—On the opening page of the January issue is a speaking portrait of Daniel Giraud Elliot, which is followed by a memorial address by Dr. Frank M. Chapman who, all too briefly, outlines the life and work of this great ornithologist. Few are privileged to attain such honors as came to him, and his loss will be keenly felt by his friends the world over. Men of such caliber always advance, and uplift the science to which they devote their lives.

As a fine example of a local list, Major Allan Brooks' 'Birds of the Chilliwack District, B. C.,' is to be commended. Collections were made for eleven years, and the results and conclusions regarding 257 species and races are compressed to occupy only a few pages, including a map. Another good local list is one on 'The Birds of Culebra Island, Porto Rico,' by Mr. A. Wetmore. Mr. H. L. Stoddard records 'Notes on a few of the Rarer Birds of Sauk and Dane Counties, Wisconsin.' Mr. H. G. Wright deals at length with 'The Orange-crowned Warbler as a Fall and Winter Visitant in the region of Boston, Massachusetts.'

A new race of the Meadowlark—*Sturnella neglecta confluenta*—from Washington, Oregon and British Columbia, is described by Mr. S. F. Rathbun, a new Finch (*Telespiza ultima*) from Nihoa Island, Hawaiian Islands, is described by Mr. W. A. Bryan, and a new race of the Broad-winged Hawk—*Buteo platypterus iowensis*—from Iowa, is described by Mr. B. H. Bailey. In view of the well known 'melanistic' plumages of many species of Hawks, we wonder if the describer has sufficiently weighed this possibility.

The Thirty-fourth Meeting of the A.O.U., in Philadelphia, is reported by the Secretary Mr. J. H. Sage. The A.O.U. has increased in spite of the long list of members deceased during the year.

Before closing this review we would take exception to the too frequent practice of publishing 'sight' records of races that, according to geographical distribution, ought to be the ones seen. For instance at page 91 we find two records of the 'Acadian' Chickadee, a slightly differing form of the Hudsonian Chickadee, and first described from Nova Scotia. How do we know that these birds are not of the race from Labrador, or the race from Hudson Bay? This is not improbable, for at page 86 is recorded the capture of a Mountain Plover on Cape Cod, a bird that should not be found east of the Rockies. And what of the Evening Grosbeaks recorded as *Coccothraustes vespertina vespertiana*? Might not the Rocky Mountain race slip down this way? And the same thing is true of other 'records' we have seen of other birds. So very many old records of species have proved to be something else, when the moth-eaten specimens on which they rested have been examined, that we may well wonder how future students are going to treat sight records, which have nothing more tangible than unsupported opinions to back them.—J. D.

Book News

'Some Bird Friends,' by Henry F. Pullen, is an "intimate introduction" to some of the commoner birds of British Columbia. It is attractively illustrated with twenty half-tones and the text shows a genuine love of birds and enthusiasm for their study. This booklet of 30 pages is published by the Free Lance Publishing Company at Victoria, British Columbia.

'Food Plants to Attract Birds and Protect Fruit,' Circular No. 49 of the Massachusetts State Board of Agriculture, by Edward Howe Forbush, is a publication which may be consulted to advantage at this seasonable time for spring planting.

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Bird-Lore

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Devoted to the Study and Protection of Birds
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

WITH the next issue of BIRD-LORE we plan to inaugurate an undertaking which it is hoped will be of much interest and value to field students. Authorities on the bird-life of certain regions have consented to supply us with a brief summary of seasonable news in that part of the bird world with which they are familiar. They will tell us, for example, of the character of the winter bird-life of their respective districts, whether it is distinguished by the presence of rare winter visitants or absence of those which should be expected to occur. They will report, in a general way, on the advance of the migration, and, in short, give a résumé of their own observations and those of other local observers who may report to them. The information they contribute will thus serve as a standard of comparison for those students who would know whether conditions in bird-life, as they observe them, are usual or exceptional. These reports will be published as a sub-department of 'Notes from Field and Study,' under the editorship of Mr. Charles H. Rogers.

The year 1916 was rendered memorable in the annals of ornithology by two remarkable discoveries. During the summer, William Stein, a member of one of the American Museum's paleontological expeditions, found the skeleton of a gigantic fossil bird in the lower Eocene deposits of Wyoming. This bird, we learn from a short preliminary announcement in 'The American Museum Journal,' "was much larger than an Ostrich, although not so tall, and had a huge head with a high compressed beak, unlike any living bird." A study of this skeleton has revealed some unexpected facts which, in due time, will be published.

The fossil bird record is so fragmentary that we are apt to take for granted almost any addition to it; but our knowledge of living birds is so comparatively complete that we were not prepared for Dr. W. L. Abbott's most surprising discovery that a local race of the White-winged Crossbill* inhabits the mountains of Santo Domingo.

If the bird were a Red Crossbill its presence, even in a West Indian island, might not be so astounding. Red Crossbills are found as far south as the pine forests of Central America and, in the Alleghanies, to Georgia; but the White-winged species is more boreal and is not known to nest south of New England. How then can we account for its presence as a permanent resident so far south of the range of the species it represents?

We may ask the same question about the Horned Larks that live on the Savanna of Bogotá in the Eastern Andes of Colombia. No other Horned Lark is found in South America or, indeed, in Central America; the nearest point at which the species occurs being southern Mexico.

Possibly we may regard these birds as indicators in nature's self-registering thermometer. Reaching the regions they now occupy during climatic conditions which no longer prevail, one has found a favorable home in the pine forests of a Caribbean island, the other, suitable haunts on a temperate zone Andean plateau. The climate, which we may believe forced them southward, has retreated, so to speak, to its present level, leaving behind it these records on the scale of time.

There is small resemblance between the giant bird which existed some millions of years ago in Wyoming, the Crossbill of Santo Domingo and Horned Lark of Colombia, but what profound depths of ignorance the light they shed reveals!

*See Riley, Smiths Misc. Coll., Vol. 66, No. 15, 1916, p. 1

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

"Hitherto my rambles have been confined to the neighborhood of a single spot, with a view of showing how perfectly accessible to all, are numerous and varied natural objects."

"When an inhabitant of the country, it was sufficient to go a few steps from the door, to be in the midst of numerous interesting objects; when a resident of the crowded city, a healthful walk of half an hour placed me where my favorite enjoyment was offered in abundance; and now, when no longer able to *seek* in fields and woods and running streams for that knowledge which cannot readily be elsewhere obtained, the recollection of my former rambles is productive of a satisfaction which past pleasures but seldom bestow."—Rambles of a Naturalist by Dr. John D. Godman, 1859.

A SUGGESTION FOR BIRD AND ARBOR DAY

MANY beautiful and instructive pageants have been given to celebrate historical events or special and significant phases of progress. These entertainments have done much to stimulate interest and civic pride in the development of the towns, cities or neighborhoods which furnished the occasion for their undertaking. The main object of such pageants, indeed, is to draw the people of a community more closely together and to attract those outside to share in the creation of new enterprises and enthusiasms.

The thought comes to one who has witnessed such a pageant: Why not try this idea in a simple way for the improvement of Bird and Arbor Day exercises, and indirectly for the betterment of the conservation of natural resources in all of its manifold forms?

State Audubon Societies could do a great deal in this direction by getting together the materials for a Bird and Arbor Day pageant on an inexpensive scale, within the means as well as within the ability of rural or urban schools. The effort put into an entertainment of this kind is never wasted, provided that effort is well directed. There is an opportunity here for the exercise of a variety of talents and the person who is able to conceive and work out a Bird and Arbor Day pageant of merit, suitable for presentation by the scholars in our primary grade and high schools will deserve our attention and praise.

The Bird masque, 'Sanctuary', written by Percy MacKaye, is beyond the ability of the average school, but wherever it has been properly presented, it has not only given much pleasure, but also, awakened keen interest in birds and nature.—A. H. W.

[NOTE: See BIRD-LORE, Vol. XVIII, No. 6, pp. 451 and 465.]

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JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXII: Correlated with Reading, English, and Music

THE POET'S TREASURE

"And now Spring beckons me with verdant hand, . . . "—Li Po. A.D. 702–762.

There is much wealth which is free to everyone in this great, whirling, beautiful world. Nature's treasures are so numerous that one could scarcely learn to name them all in a lifetime, although they are free to any one who will seek them. It is the gift of poets to discover treasures hidden from ordinary sight, and to them you must go to find the way to many a treasure-trove. You cannot begin too soon to become familiar with the ways and words of poets. The *great* poets give generously of the wealth they have found, just as great musicians or great artists do. Why not take *the best* for your own, then, when it can be had for the accepting, instead of wasting your finest sense of appreciation upon the less worthy or the unworthy? If any one should offer you a choice between several coats, or hats, or automobiles, you would surely take the best. Why choose low-grade music or inferior books or ordinary pictures when you can as easily have the best?

To help you prepare for Bird and Arbor Day, the following bits of treasure have been found and are here offered to you.

In the fourth century B. C. there lived a Chinese poet who was also a minister of state to a feudal prince. This poet was exiled for political reasons, and went to the distant hill-country where he lived with Nature until his tragic death. Thereafter, in his honor, there was held on the fifth day of the fifth moon a festival called the Dragon-boat Festival.

There follows part of a song written by this poet, whose name was Ch'ü Yüan:

"Methinks there's a genius
Roams in the mountains,
Girdled with ivy
And robed in wisteria,
Lips ever smiling,
Of noble demeanour,
Driving the yellow pard,
Tiger-attended,
Couched in a chariot
With banners of cassia,
Cloaked with the orchid,
And crowned with azaleas;
Culling the perfume
Of sweet flowers, he leaves
In the heart a dream-blossom
Memory haunting. . . . "

This is a wonderful Oriental picture, a gem in words, which though translated from the original, still conveys to us the poet's deep delight in Nature's beauty. One can almost see the imaginary Spirit of the Mountains, clothed in flowers, driving a yellow leopard, attended by tigers, who leaves in each responsive heart a dream-blossom.

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Between 689 and 740 A.D. a very learned poet named Meng Hao-jan lived and wrote. He went to the hills after spending forty years in study and from his pen we may take these delicate pearls of thought:

"The red gleam o'er the mountains
Goes wavering from sight,
And the quiet moon enhances
The loveliness of night.

. . . . . .

"The night wind tells me secrets
Of lotus lilies blue;
And hour by hour the willows
Shake down the chiming dew.

. . . . . .

"Over the chain of giant peaks
The great red sun goes down,
And in the stealthy floods of night
The distant valleys drown.

"Yon moon that cleaves the gloomy pine
Has freshness in her train;
Low wind, faint stream and waterfall
Haunt me with their refrain.

"The tired woodman seeks his cot
That twinkles up the hill;
And sleep has touched the wanderers
That sang the twilight still."

What rare sympathy with Nature this poet had, to present to us in so few simple lines such a wealth of beauty! Lute in hand, he wandered "through the fragrant dew-lit ways" to meet a friend, filled with the beauty of the night. Can you hear the willows hour by hour "shake down the chiming dew," as he watched the "stealthy floods of night" drown the distant valleys? Can you see the gleam of light twinkling up the hill from the woodman's cottage and can you feel that moment of silence when sleep touched the wandering birds "that sang the twilight still?"

These poets of long ago knew the birds better than we suspect, and the flowers, trees, skies and mountains, too. Take a few random lines from other Chinese poets who lived before the year 1000 A.D.:

"Night is at hand; the night winds fret afar,
The North winds moan. The waterfowl are gone
To cover o'er the sand-dunes; dawn alone
Shall call them from the sedges. Some bright star
Mirrors her charms upon the silver shoal."

"Oh! she is good, the little rain! and well she knows our need
Who cometh in the time of spring to aid the sundrawn seed;
She wanders with a friendly mind through silent nights unseen,
The furrows feel her happy tears, and lo! the land is green."

"The yellow dusk winds round the city wall:
The crows are drawn to nest,
Silently down the west
They hasten home, and from the branches call."

"I too have felt the wild-bird thrill of song . . . "

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The following lines taken from a poem describing a stone image known for "a thousand autumns" as the Celestial Weaver hints at the careful observation of the poet who wrote them:

"And since she breathes not, being stone, the birds
Light on her shoulders, flutter without fear at her still breast. . . . "

"How beautiful and fresh the grass returns!
When golden days decline, the meadow burns;
Yet autumn suns no hidden root have slain,
The spring winds blow, and there is grass again."

"In green pavilions of warm trees
The golden builders toil and sing;
While swallows dip along the leas,
And dabble in the ooze of Spring."

"The peach blooms open on the eastern wall—
I breathe their fragrance, laughing in the glow
Of golden noontide. Suddenly there comes
The revelation of the ancient wind,
Flooding my soul with glory; till I feel
One with the brightness of the first far dawn,
One with the many-coloured spring; and all
The secrets of the scented hearts of flowers
Are whispered through me; . . . "

Could any words express more exquisitely than these the spirit of 'tranquil repose' discerned by the poet-seer in the familiar aspects of nature about him?

"It dwells in the quiet silence,
Unseen upon hill and plain,
'Tis lapped by the tideless harmonies,
It soars with the lonely crane."

It is such a worshipper of nature who bares his head "while some far thrush the silence stirs," and as he scans the sky, welcoming now some early flock of wild geese, or reveling in flowers, and making the world his 'dreaming-place,' voices the feeling of every one who loves nature and finds in it rest and never-ending refreshment.

Who has not, at times at least, felt himself in 'a world apart,' like the ancient Taoist philosopher, exiled and a wanderer, going by the title of the "Old Fisherman of the Mists and Waters," (though as he explained, "he spent his time in angling, but used no bait, his object not being to catch fish")?

These are the lines of his poem entitled:

A WORLD APART

"The Lady Moon is my lover,
My friends are the oceans four,
The heavens have roofed me over,
And the dawn is my golden door.

I would liefer follow the condor
Or the seagull, soaring from ken,
Than bury my godhead yonder
In the dust of the whirl of men."

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There have been poets without number gathering hidden treasure since the days of these long dead singers of the East, but I may call your attention to only one at this time, Emily Dickinson, a rare New England genius, whose verses convey delicately traced pictures and a subtle charm reminding one of the Oriental poets.

We may wonder if she herself felt this when she wrote

THE SEA OF SUNSET

"This is the land the sunset washes,
These are the banks of the Yellow Sea;
Where it rose, or whither it rushes,
These are the western mystery!

"Night after night her purple traffic
Strews the landing with opal bales;
Merchantmen poise upon horizons,
Dip, and vanish with fairy sails."

Find her thin volumes of poems, so overflowing with treasure, and look there for 'May-flower,' 'Purple Clover,' 'Summer Shower,' 'The Snake,' 'Out of the Morning,' 'Mother Nature,' 'The Grass,' 'The Oriole's Secret,' 'In the Garden,' 'The Bluebird,' 'April.' All of her poems are short. Two you may enjoy memorizing.

THE ROBIN

"The robin is the one
That interrupts the morn
With hurried, few, express reports
When March is scarcely on.

"The robin is the one
That overflows the noon
With her cherubic quantity,
An April but begun.

"The robin is the one
That speechless from her nest
Submits that home and certainty
And sanctity are best."

THE SLEEPING FLOWERS

" 'Whose are the little beds,' I asked,
'Which in the valleys lie?'
Some shook their heads, and others smiled,
And no one made reply.

" 'Perhaps they did not hear,' I said;
'I will inquire again.
Whose are the beds, the tiny beds
So thick upon the plain?'

" "Tis daisy in the shortest;
A little farther on,
Nearest the door to wake the first,
Little leontodon.

" "Tis iris, sir, and aster,
Anemone and bell,
Batschia in the blanket red,
And chubby daffodil.'

"Meanwhile at many cradles
Her busy foot she plied,
Humming the quaintest lullaby
That ever rocked a child.

" 'Hush! Epigea wakens!
The crocus stirs her lids,
Rhodora's cheek is crimson,—
She's dreaming of the woods.'

"Then, turning from them, reverent,
'Their bed-time 'tis,' she said;
'The bumble-bees will wake them
When April woods are red.' "

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SUGGESTIONS

Where does wistaria grow? cassia?
Where do azaleas grow? orchids?
Why does the poet say "*stealthy* floods of night?"
What kinds of waterfowl go to cover "among the sedges?"
Why does the poet say "*sundrawn*" seed?
What is the picture of the yellow dusk *winding* around the city wall?
Who are "the *golden builders* in the trees?"
Why did the poet write "*warm*" trees?
Do Swallows "dabble in the ooze," that is, gather mud?
What are the "*tideless harmonies*?"
To what does the "cherubic quantity" of the Robin refer?
To what habit of nesting does the word "*speechless*" refer?
Do any birds ever sing on the nest?
What flower is leontodon? batschia? epigaea? rhodora?
What do these words mean?
Do you find the poets' treasure in these quotations?
Look up *treasure-trove*. Note spelling of all nouns given above.
Read 'The Rhodora,' by Emerson.—A. H. W.

FOR AND FROM ADULT AND YOUNG OBSERVERS

THE VALUE OF CHARTS AND PICTURES OF BIRDS

I am inclosing a picture of the Junior Audubon Society at Traverse, Minnesota, taken in April. Last October, we formed the club and have had a meeting each month until school closed. At each one we studied a different bird, using the leaflets. Many interesting things were learned about birds and we have all enjoyed the work very much.—CAROLINE D. LUTHER, *Waterville, Minn.*

JUNIOR AUDUBON SOCIETY AT TRAVERSE, MINNESOTA

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[It is an encouraging feature of the School Department to receive so many welcome reports of bird-study in schools successfully and profitably carried on to the enjoyment of both teachers and pupils. From time to time, in these columns, suggestions are made or criticisms offered as to the value of bird-charts and pictures. Do not forget that in bird- and nature-study the most important thing is to *learn to observe* at first-hand. The living bird, tree, or flower in its native habitat is the *real* bird, tree, or flower, the one we want to become more and more familiar with and learn to love and understand and cherish.

Pictures and charts are valuable aids but they do not take one far in an *actual acquaintance with nature*, which is the basis of the nature-student's knowledge. Use them then with discrimination, remembering their limitations.—A. H. W.]

A PLAYLET FOR BIRD AND ARBOR DAY EXERCISES

TENNYSON'S BROOK (Sung)

BETH.—[writing] The music of that brook makes a lovely setting for my paper on Audubon, for birds always haunt a brook. [Aloud] John James Audubon was born near New Orleans in 1780. (My! almost a century and a half ago!) When he was a very tiny child, he tried to draw the birds he saw in the woods around him. His father was a French naval officer, so of course he wanted his son to enter the navy and he had teachers to prepare him for this career. His drawing-master set him to sketching horses' heads, but John seized every opportunity to draw his beloved birds. Finally his father realized that he could not be anything but an artist. Audubon painted his birds in their natural colors and, what was just as important, in their natural positions, something that no previous artist had ever done. Some of the greatest scholars in Europe and America were his personal friends, and surely it is fitting that he should be the founder of the society for the protection of birds.

JOHN.—[rushing in with egg in his hand] Sis, see this cunning little egg! I think it is a Robin's.

BETH.—Did you rob a bird's-nest?

JOHN.—No, I'm not that kind. I found it on the ground and thought you'd like it for your Audubon Club meeting this afternoon.

BETH.—John, you ought to do something to stop the destruction of birds. I saw a number of boys with bean-shooters the other day, right here in this neighborhood.

JOHN.—Well, I do try to stop them, but, Sis, I think if they knew more about birds they wouldn't be so cruel.

BETH.—Well you can relieve them of a little of their ignorance. Tell them that man would perish from the earth in seven years if it wasn't for the birds.

JOHN.—[rubbing head] That's pretty strong. How do you make that out?

BETH.—Why, they eat the insects which destroy the food that the farmers plant for us to eat. Birds have an enormous appetite; they eat much more than their own weight. One bird alone eats hundreds of different kinds of insects, caterpillars, and mosquitos. Here is a pamphlet [taking it up and reading from it] published by the Department of Agriculture of the United States. Among other things it says that the Cuckoo eats so many caterpillars that its stomach is lined with hairs; this bird also eats beetles, spiders, and grasshoppers.

WILL.—That's all right, Beth. Everything you say is true, but boys are not the only creatures cruel to birds. What about the 10,000,000 birds used in this country in one season to decorate women's hats? And you know those most costly feathers which ladies like to wear, called aigrettes, are taken from a beautiful bird called the White

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Heron. This aigrette is cruelly torn from the body of the mother bird while she is caring for her young, and when the mother is killed, of course, the little ones die.

BETH.—The Audubon Society has been steadily fighting this evil. New York state and many other states have passed laws to protect the birds, and I assure you we don't wear feathers of any kind on our hats; flowers and ribbons are good enough for us. Of course we could wear Ostrich feathers, because those are plucked harmlessly.

WILL.—O, yes, they are all right.

BETH.—The girls will soon be here to give their reports on birds for the past two weeks. Please stay. I think you will be interested, and we want your help.

[Five or six girls come running in, put hats down and seat themselves.]

GRACE.—Well, I've been to the woods to get some information from the birds themselves. I saw the dearest Song Sparrow, a little brown bird you know, much like the English Sparrow, only he has spots on his breast. I watched him sitting on top of a bush and singing "Sweet, sweet, sweet, very merry cheer" [turning leaves of her book], and then, away in the deep woods, I heard a voice calling, "Teacher, teacher, teacher."

REBECCA.—O, yes, the Oven-bird! That's a little brown bird too!

GRACE [continues]—and when I drew near the entrance again, I saw a whole colony of Wrens. There was a tiny bird-house on a porch and the mother Wren was going in to feed her babies. The Wrens also are brown and very small; but oh! their notes are so sweet and rapid that they just tumble over one another, and I couldn't attempt to imitate them.

FLORENCE.—And I have been up to Bronx Park; one has a splendid opportunity to study birds there, because they have a large inclosure filled with the various song-birds, and they are all named.

OTHERS.—Isn't that fine!

FLORENCE [continues]—But I wandered out into the adjoining woods, and saw the first bird of spring, the one that carries the sky on his back.

MIRIAM.—The Bluebird!

FLORENCE [continues]—and as I was standing very quietly under a tree, a Wood Thrush came down on a near-by branch and said, "Who are you, who are you?" and I was so thrilled with delight that I didn't answer his question.

MIRIAM.—What a charming experience, but what wouldn't I give to hear a Hermit Thrush! His song is like a beautiful hymn, and I suppose it would be almost irreverent to try to imitate that.

HELEN.—How was the Wood Thrush dressed?

FLORENCE.—He wore a coat of cinnamon-brown and a vest of gray splashed with brown spots.

MARION.—Well, my report is from a place nearer home, our own Prospect Park. I suppose you know over seventy varieties of birds can be seen there. The Purple Grackles are very common; the grass is simply black with these big birds. If I had an old wheelbarrow here, I could show you what the Grackle says, because it is a squeak. Farther out, as I was going through the deep grass, I heard distinctly these words, "You can't see me, you can't see me," and sure enough I couldn't, for the deep grass hid him completely.

HELEN K.—That's the Meadowlark. Down at Nantucket I used to hear him all day. He is a beautiful, large bird with a coat of dark brown and throat and breast of bright yellow.

HELEN D.—I wish I could have seen him, but I did see a Woodpecker, dear little downy fellow, drilling away on the trunk of a tree as if his work in the world was the work that must be done.

GERTRUDE.—Yes, he saves the trees by eating the insects.

REBECCA.—Who says, "Cheer up, cheer up, cheer up?"

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ALL.—The Robin!

REBECCA.—Well, as you know, we have some trees in our back yard, and I have been trying to attract the birds this year.

GERTRUDE.—Oh, tell us what you did! I always put crumbs out for them.

REBECCA.—I nailed a tin cup filled with sugar and water in one tree, and another with crumbs in a second tree. I also fastened bones in the branches, and a piece of suet as large as your two hands, and you should have seen the result. The Blue Jay arrived with his outlandish voice, but handsome blue coat and topknot, and the little Chick-a-dee-dee-dee, and the Junco who stays with us all winter, and now the dear Robins. They have built their nest of mud and straw, not so pretty as the Oriole's hanging nest to be sure, but it is very interesting to watch the family life in it. The mother Robin is an excellent disciplinarian; she visits each child in turn with a delicious worm, and if any youngster is inclined to be piggish, she raps him with her bill.

NELLIE.—[rushing in and fanning herself; all say "Hello!"] I just got off the train! Where do you think I've been? to Riverby on the Hudson, to visit Mr. John Burroughs, the greatest living naturalist! See, I have his picture here.

MIRIAM.—What an honor! but tell us what you did.

WILL.—Beg pardon, but isn't Henry Ford, the auto manufacturer, a friend of Mr. Burroughs?

NELLIE.—Yes, and Mr. Ford is a great lover of birds. His whole estate is one vast bird sanctuary. He has bird-houses and feeding-stations and every known comfort to attract and protect the birds. Well, Mr. Burroughs himself met us at the station. You know he is seventy-nine years old, but you should have seen him crank up his Ford car; he says he has to work or people might think he was getting old. On the way up to his house, he pointed out to us a rare bird's nest, or a delicate flower, or an odd tree that we might not have noticed at all. Then he took us to his famous study in the woods called "Slabsides." You can't imagine what a delightful companion Mr. Burroughs is,—why he knows the name of everything in nature, even the different kinds of rocks!

JOHN.—I'm thinking, didn't Mr. Burroughs in his youth live in Washington and know Mr. Lincoln?

NELLIE.—Yes, he had a Government position.

JOHN.—Well, I wonder if you know that story about Mr. Lincoln and the birds. He and a party of gentlemen were riding off to attend to a business matter of importance, when Mr. Lincoln saw two birds that had fallen out of their nest. After several minutes Mr. Lincoln said, "Gentlemen, I must return and put those two birds back into their nest."

WILL.—All great men seem to have loved birds. Nearly every poet has written about them. Shelley sang of the Skylark, Keats of the Nightingale, and of our own poets, Celia Thaxter's 'Sandpiper,' and Longfellow's 'Birds of Killingworth,' are dear to every one.

BETH.—Yes, and isn't it Emerson who says,

"Hast thou named all the birds without a gun?
Loved the wood-rose and left it on its stalk?
O, be my friend, and teach me to be thine."

[This simple but suggestive playlet has sufficient action, if well presented, to make an effective part of a Bird and Arbor Day program. Added interest would be gained if the following articles were shown at the proper moment to illustrate the spoken lines: a picture of Audubon and one of his bird pictures if a copy can be secured; a bean-shooter; a picture of the aigrette being torn from the Egret Herons and also, a picture of the Heron in perfect nuptial plumage; a picture of John Burroughs and one of Mr. Ford's bird sanctuary. Hung up on the wall might also be pictures of the various birds mentioned in the playlet with portraits of the poets named and of Abraham Lincoln.

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The quotation from Emerson's lines emphasizes again the value which poets attach to Nature's treasures. In her quaint, delicate way, Emily Dickinson, too, warns the ruthless trespasser who plucks every flower, especially the rarest, and who asserts his supposed right to trample upon or destroy anything which comes to his notice:

"Who robbed the woods,
The trusting woods?
The unsuspecting trees
Brought out their burrs and mosses
His fantasy to please.
He scanned their trinkets, curious,
He grasped, he bore away.
What will the solemn hemlock,
What will the fir-tree say?"

If Bird and Arbor Day teaches anything, it is this lesson of the right use and enjoyment of Nature. The playlet given above was written by Eva Marian Provost in the interest of the Audubon Society and presented at School, No. 167, Brooklyn, N. Y. "As a result of the enthusiasm it awakened," twelve Junior Audubon Societies were formed during the year.—A. H. W.]

THE SKYLARK AT HOME

Dorking, Surrey, England, July 9, 1905.

Took a walk after breakfast. There was a continuous singing of Larks, soft and low, all over the fields of standing grain, and once in a while a bird would rise, ascend higher than the trees, and hover in the air, pouring out liquid trills, and after a minute would drop to the ground. I was enchanted at this, for I had feared it was getting too late in the summer to hear a Skylark. The best was to come, however. One started up, singing, and continued soaring around and gradually rising higher and higher, up and up, until it was a tiny speck which it was hard to keep in sight in the bright sky. Leaning against a fence-post, I tipped my umbrella toward the sun to protect my eyes from the glare, so that I could watch the singer, which was almost in the zenith. Once I lost it, but knew it was there, for the sweet, unceasing trilling music still floated down. The bird kept in the sky fully five minutes, perhaps longer. Then it descended slowly, growing larger to the sight, and, just at the last, stopping its circling, it came down in a straight line, still keeping up its singing until it alighted. It was worth crossing the ocean to hear that Skylark sing.—Miss Lucy Upton, *Providence, R. I.*

[The writer of the above, an invalid who now is able to observe birds only occasionally from her room, which overlooks a few trees in a somewhat open corner of a city street, has so fine an appreciation of nature that her words, not originally intended for publication, will appeal to us all, expressing as they do the result of keen observation and sympathetic understanding.

She says: "I have been trying to analyze the fascination of bird-study, as compared with other lines of nature-study. It does appeal more to me. My recreation hobby for years was botany, and it gave me much pleasure. I was nearly fifty before I began to pay any attention to birds and I have often regretted that I had no interest in them

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when I was young. The only desire I could have for beginning life over again would be that I might have more intimacy with birds. I have had a few lovely experiences that I would like to share with you."

Read Shelley's *Skylark* and memorize it, a simple task that will bring you much joy.—A. H. W.]

AN ALBINO CROW

One day in late spring I noticed a flock of Crows with a white bird among them.

The Crows lit on a corn-piece and began to dig up the little corn.

I looked on for awhile and then shouted at them. They all rose from the ground, the white bird taking the lead. That was the last I saw of them that day. The next day I saw the white Crow again. It sat on a fence-post and cawed like a Crow. It was just the size of a black Crow. One morning last summer I saw another white Crow. It cawed to the rest and they flew and it took the lead.—ROGER D. PINKHAM (age 12 years), *Lancaster, N. H.*

[Albino birds, like albino creatures of any kind, are rare, so mark it as a red-letter day when you see one. In certain lights, white is a more striking color than red or blue or green, and it plays a decidedly important part in animal and plant coloration. See Chapman's 'Handbook,' pp. 92–96, and also, when visiting museums look for exhibits demonstrating this fact.—A. H. W.]

MY REAL ESTATE BUSINESS

I entered the real estate business in 1913, and my first advertisement was put in the 'Bird News' of our country place. I had five houses for rent, three for Wrens and two for Bluebirds. They were nailed on shady trees which grew quite near together. My first caller was a Wren who looked a little white house over carefully but was much displeased with the doorway. She peeped into the house and then called for her mate. This she repeated three times before her husband arrived. Both went in but came right out and immediately left. I found out later that the doorway was made entirely wrong, and to make it comfortable and cozy I would have to bore the door hole at least an inch above the floor. I did so and the next summer the house was occupied by a family of Wrens, who paid well for the rent. I then repaired all of my houses the same way only making the Bluebirds' doorway larger.

I was so encouraged that summer that I bought more houses, and the increase of feathered neighbors was greatly noticed.

In the winter I decided to keep lunch-counters and they were supplied daily with suet, sunflower seeds, millet, and wheat. My chief visitors were the White-breasted Nuthatches, and a stream of them was as continuous as a stream of water flowing into the ocean, only their ocean was the food-counter.

Downy Woodpeckers were seen quite often at the counters, and Flickers and Juncos. Song and Tree Sparrows came occasionally, and toward the end of winter they were almost as regular visitors as the Nuthatches.

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This summer, 1916, more birds have rented my houses than the two last summers could total. English Sparrows are seen little around the house, and I am glad to say that I have more than twenty houses, besides food-counters and -shelves, and I am planning to buy more houses and I hope to have many bathing-places before next summer, so I can call our five-acre lawn a real bird sanctuary.—SARAH W. WEAVER (age 13), *"Clynmalira," Monkton, Md.*

[We have few more active bird-students than the writer of this article which spells enjoyment of nature in every word. "I now have a branch of the Audubon Society," she writes, "and I belong to the Maryland Wild Bird Protective Association. I am studying and hope to be a bird lecturer when I am older." We need more people who are *really acquainted* with birds and nature to give talks in schools and elsewhere.—A. H. W.]

THE TRUTH ABOUT CATS AND BIRDS

There is a very curious thing going on at our house. And what is it? You shall hear about it now.

There are two Mockingbirds around our home that started it all by chirping so much one morning that my grandmother looked out of her window to see what all the fuss was about, and there was a cat, and one of the Mockingbirds, and the Mockingbird would fly down and pick the cat and then fly up before the cat could get it.

And one day Mother came running and said, "Come out and see the Mockingbird's nest." So I went out and there was the Mockingbird's nest. And there were three huge mouths that belonged to the little Mockingbirds, and we could see their heads sticking up out of the nest.

One day there was a terrible downpour of rain. And next day there was only one little Mockingbird left. And you see the Mockingbirds picked all the cats that came near the nest because they were afraid the cats would catch them.

We are sure that the rain drowned the other two little Mockingbirds. That afternoon Mother looked all around on the ground, but she didn't see them. But one morning, before seven o'clock, I heard the Mockingbirds calling, so I got up and looked out of my window, and there was one of our cats, and there was the poor little Mockingbird and twice the cat attacked the little Mockingbird, but we scared the cat away.

Then when our cook, Ellen, came in she put the bird on the fence, but it flew right down into the next yard. And this is the end.—LOUISE ROBINSON KING (7 years), *Charleston, S. C.*

[If you have not read Sidney Lanier's delightful story about a pet Mockingbird, be sure to get it soon. It would be a charming selection to read aloud at a Junior Audubon Society meeting. As to cats and birds, don't try to apologize for cats or to excuse them for wanting to destroy birds. It is their natural habit, and the sensible thing is to remember this and to discover some way whereby cats and birds can be kept apart. Mr. Howard Cleaves in an admirable illustrated lecture upon matters connected with bird-

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banding and bird-protection, shows a device whereby cats can be given ample outdoor space under piazzas, well latticed.

Those who like cats and wish to keep them ought, in justice to their neighbors who may not like cats, as well as in justice to birds and the cats themselves, adopt some simple, effective way of giving their pets outdoor exercise without endangering bird-life or encroaching upon the rights of others. Let us use tact in this matter, but at the same time let us do something sensible and to the point. The little girl who sent in this interesting contribution wrote down her observations with "absolutely no help of any kind."—A. H. W.]

A FAMILY OF FOREST BABIES

'Twas a glorious morn in springtime
When all Nature was astir;
All around the birds were singing
And the insects were awhir.

Along the country roadside
Violets raised their faces bright,
And where'er one looked or listened
There was beauty and delight.

We were on our way to school
And our pleasure ever grew
When we found a bird or blossom
Or a creature that was new.

Driving up a wooded mountain
We were suddenly surprised
By a whirring rush and flutter
Right before our very eyes.

'Twas a frightened mother Partridge
With her brood just off the nest,
And, to save her young, she flew
Swiftly 'gainst the horse's breast.

Instantly we made a halt.
What was this we had espied?
Baby Partridges so young
That they had not learned to hide!

Scattered all about the roadway—
'Twas the rarest sight to see—
Were the sweetest, dearest babies
Found in Nature's nursery.

Then we caught one—yes, 'twas true,
A baby Partridge—what a prize!
We must hold it and see closer
Those most wondrous sparkling eyes.

It was only one brief moment
That we were so greatly blessed;
Then reluctantly, but gently,
It was placed among the rest,

For the frantic mother Partridge
Flew at us in great concern.
'Twas a most important lesson
That such wee babes had to learn.

Soon with sudden understanding
They all did as they were bidden,
And with their devoted mother
Quickly under leaves were hidden.

So this kindergarten lesson
For the forest children bright,
Most impressively was taught
And observed with great delight.

Thus does every baby Partridge
Learn the lesson, too, I ween,
But seldom are we humans blessed
By beholding such a scene.

—Miss Adelaide L. Moore, *Winsted, Conn.*

[The incident described is vouched for by the writer, to "the truth of every word." Another correspondent sends notes about a brood of nine little Partridges, which at the time of writing were "only a day or two old . . . too young to know any fear." He adds, "a week longer and you could not get near one."—A. H. W.]

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THE SAGE GROUSE

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 91

On a beautiful July evening our little party left the open waters of Lower Klamath Lake and slowly made its way up a combined creek and canal to Laird's Landing. At the little wharf the Audubon patrol-boat 'Grebe' came to rest, and we stepped out to find before us the ranch-buildings of a small stock-raiser lying in a semi-circle of ragged desert hills that rose in uneven terraces to the distant horizon. A Western Meadowlark was singing in the yard and numerous Mourning Doves, the most ubiquitous bird in North America, were flying about. In the one small cluster of trees within sight Bullock's Orioles were nesting. Snipe and Phalaropes were brooding their eggs in the neighboring marsh, and a Western Horned Owl had only the night before moved her young from the big barn to the trees where the Orioles' hammock nests swung.

These evidences of bird-life were noted within a few minutes after landing, but we had come in quest of something else—we sought a certain bird which the writer had never seen. There were plenty in the neighborhood we were told, and to find them we need only walk out on the sage-clad hills. The country had once been an interminable jumble of lava beds disgorged from a heated and groaning earth. On every hand lay blocks of black volcanic rock, but the rain and frost of centuries had worn away the igneous mass and made the soil that now furnished a scanty foothold for the sage. Over these silent wastes we walked. Twice we were saluted by the song of the Sage Thrasher, and thrice the trilling, canary-like notes of the Brewer's Sparrow were borne to our ears.

Suddenly, only a few feet distant, a large bird burst from cover and went rushing away through the air at a good rate. To my startled gaze it seemed almost as large as a Turkey, although probably it weighed not more than four pounds. Its flight was distinctive. Turning its body to the left it gave four hasty wing-beats, then sailed on an even keel, only to turn to the right in another moment and repeat the performance. Thus alternately sailing and flying, while turning its body first to one side and then to the other, it pursued its course for perhaps a third of a mile and dropped again among the sage-brush. We had found the object we sought, the great Sage Grouse of the desert plains, the largest Grouse in the world save the Capercaillie of Europe. From bill-tip to tail-tip a grown male measures two and a half feet, and the expanse of its wings is a yard or more.

This was near the northern boundary of California and at almost the westernmost limit of the bird's range.

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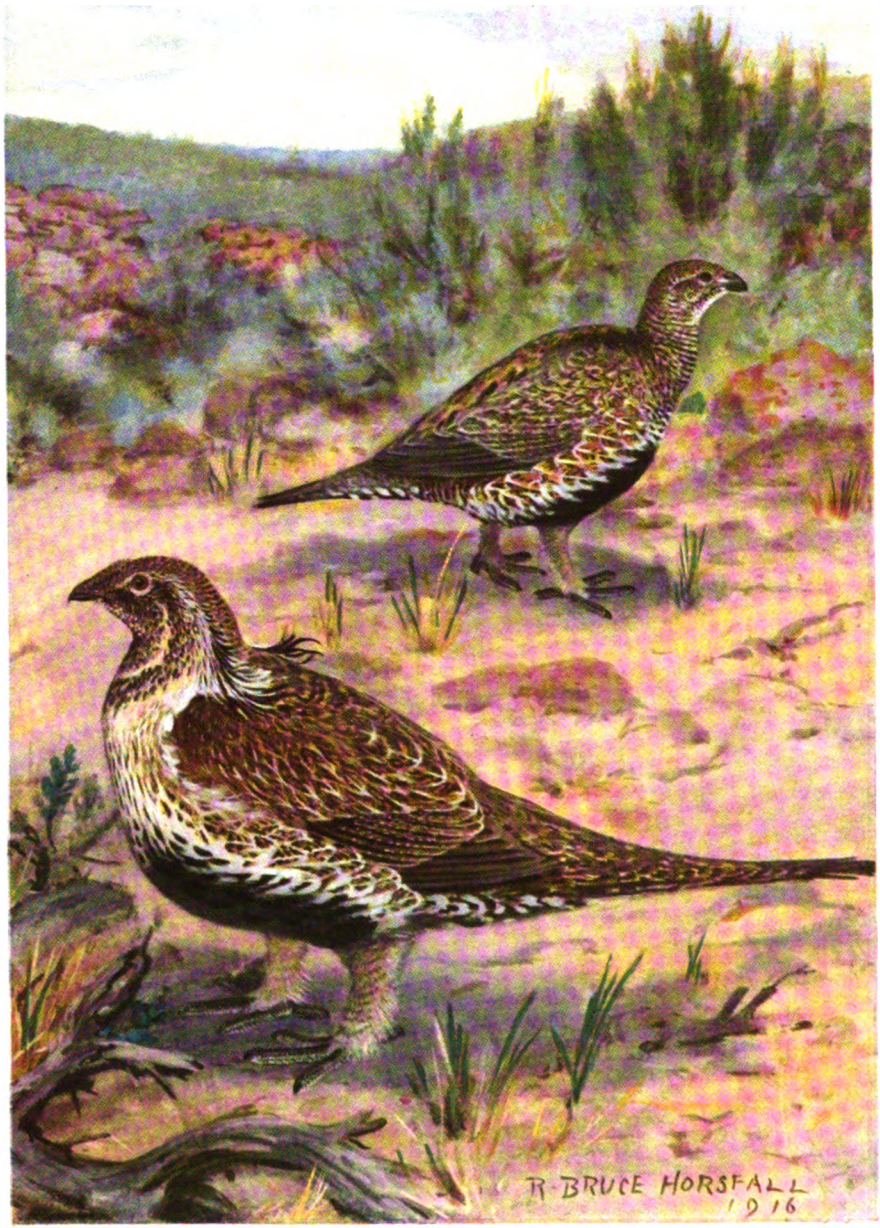

SAGE GROUSE

Order—GALLINÆ
Genus—CENTROCERCUS
Family—TETRAONIDÆ
Species—UROPHASIANUS

National Association of Audubon Societies

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The haunt of the Sage Hen corresponds very nearly to that portion of North America where the sage-brush grows; thus it is found in southern British Columbia and southern Alberta, and thence southward through eastern Oregon, Montana, Wyoming, Idaho, Colorado, Nevada, Utah and eastern California. The southern limit of their range is reached when the desert growth turns from sage-brush to creosote in northern Arizona and New Mexico.

Throughout all this vast region this feathered monarch of the plains was at one time abundant. Formerly it was not extensively shot for the reason that antelope, deer, and other larger game were usually to be met with. With the passing of the big game and the introduction of breech-loading guns, a sad change has come over the fortunes of the Sage Hen. In some remote corners of the West where hunters rarely penetrate, these naturally trusting birds are so tame at times that one may knock them over with a stick. As a general thing, however, they have learned a proper dread of their human enemies, and in many sections where the remnants of the former flocks are still to be found it is frequently difficult to approach within shooting distance before the birds take wing.

This Grouse feeds very largely on the leaves of the sage-brush, and its flesh is at times strongly permeated with the odor of this plant. Hence, experienced Westerners seldom shoot the old birds, for their flesh is tough and strong, and unless prepared by a master cook is usually regarded as totally unfit for food. Irwin Cobb, after such an experience, named the bird 'The Battle Hen of the Republic.' Young birds of the year that have fed largely on grasshoppers and other insects are regarded as being a choice food, and are esteemed as highly as the Ruffed Grouse or Bob-White. In the deserts around Burns, Oregon, I found the rangers quite able to distinguish between the old and young when the birds rose from the ground. That the young are quite as good as any game bird in the land was proven to me by the delicious repast set before me by some of the good people of this arid country. The Sage Grouse are entirely terrestrial; living in regions where trees are rare they have never acquired the habit of alighting on a limb. Experienced gunners speak with admiration of the bird's ability to hide on the ground where there is extremely little cover, the only possible protection being the low growth of scattered sage-brush.

Observers have long noted that the feathers on the breast of the male Sage Grouse are often found in a worn and frayed condition, which would seem to indicate that this portion of the plumage, for some reason, receives much rougher treatment than elsewhere on the body. An explanation of this and also some interesting notes on the bird's behavior during the breeding-season was published some years ago in *The Auk* by Mr. Frank Bond who, while living in the West, had abundant opportunities to observe the activities of this interesting bird.

"The peculiar feathers of the breast of the Sage Cock," he writes, "are more or less faithfully described by every ornithologist who has published a

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sketch of the bird; but as yet I have seen no explanation of the cause of the wearing away of the barbs and even shafts of the feathers of the lower neck. These feathers are worn away during that period of sexual excitement which causes many birds to develop odd and eccentric habits until the nuptial season is passed. The Sage Cock is unable to produce the musical booming sound of the Prairie Chicken, the forcible expulsion of the air from the sacs producing an inconsequential chuckling noise only; nevertheless the bird offers reasonable entertainment to any individual who will rise early and stroll out into the sage-brush a hundred yards from the campfire.

"During the months of April and May the Sage Cocks are usually found in small flocks of a half dozen or more, stalking about with tails erect and spread after the manner of the strutting Turkey cock, but I have never seen the Grouse dragging their wings upon the ground, turkey fashion, and in the manner described by Dr. Newberry in the quotation from this author found on page 406 of Dr. Coues' 'Birds of the Northwest,' nor have I ever found a wing of a Sage Cock, in this or any other season, which exhibites the slightest wearing away of the primaries. Instead of dragging its wings upon the ground, the Sage Cock will enormously inflate the air-sacs of the neck until the whole neck and breast is balloon-like in appearance, then stooping forward, almost the entire weight of the body is thrown upon the distended portion, and the birds slides along on the bare ground or short grass for some distance, the performance being concluded by the expulsion of the air from the sacs with a variety of chuckling, cackling, or rumbling sounds. This performance is continued probably daily, during the pairing and nesting season, and of course the feathers are worn away by the constant friction."

Mr. E. S. Cameron, who has studied the habits of the Sage Grouse in Montana, makes further comments on the peculiar antics of these birds when in spring the mating instinct becomes strongly developed. In part he says:

"During the first half of April the males repair to a regular 'playground,' but it is a difficult matter to observe their love-antics on account of the encompassing sage. However, on April 7, 1896, my wife and I happened to ride close upon a number of old cocks, near our ranch, which were engaged with their play in a small open space. They never fought nor threatened each other, but strutted or paraded before some hens concealed in the sage-bushes, and were entirely occupied with a most grotesque rivalry. By ruffling up all their feathers, spreading their tails, and dragging their wings along the ground, they looked much larger than they really were, while they produced a rattling sound with their quills after the manner of Turkey cocks and Peafowl. At the same time they continuously uttered a kind of whistling challenge, and, distending their necks by means of their air-sacs, erected an enormous white ruff. As the playground was small, the eight or nine cocks upon it were in imminent danger of a collision, but for the ten minutes that we watched them this did not take place, nor were there any moments of ecstatic oblivion for which some game-

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birds are famous. As will be seen from the above their courtship is rather a display than a 'play,' thus differing from the performance of the Sharp-tailed Grouse.

Like all Grouse, this species has its nest on the ground. This consists of a slight hollow, usually under the shelter of a sage-bush, but sometimes it may be found under a bunch of high grass in the neighborhood of some stream or small body of water. Occasionally one may come across a nest containing a slight lining of grass-blades, or of sage-brush, twigs, or leaves, but more often there is no lining of any character.

In number the eggs range from six to nine. They are olive-buff or greenish brown in color, and are prettily marked with round spots of dark brown.

As already intimated, the food of the Sage Hen, to a considerable extent, is composed of the leaves of the sage-brush, but the birds also eat other leaves, tender plants, and even blossoms. Grasshoppers, ants, and such other insects as are available are also consumed. I have never heard a farmer complain of a Sage Grouse injuring his growing crops except in rare instances, although this may occur to a very limited extent. Perhaps one reason for the lack of complaints is that when a district becomes thickly settled, and contains many farms where crops might be injured, the birds have become so depleted by shooting that any destruction they may do is hardly noticeable.

The time has arrived in the history of the Sage Grouse when it is necessary that more restrictive measures should be enacted and enforced for its protection if the bird is to be spared from the fate of the antelope, which at one time existed in great numbers over a large part of the range in which the Sage Grouse still persists.

It is true that laws have been enacted for their protection, but these are not adequate; for instance, in Idaho, the birds may be shot for three and a half months, and in Nevada, four and a half months each year. This is entirely too long a season, especially when we take into consideration that the bag-limit, or in other words the number of birds that may legally be killed in a day, is ten in Nevada and in Idaho, twelve. Thus it will be seen that in Idaho the law permits a man to kill legally not less than 1,176 Sage Grouse in a single season.

The state of Washington has already taken steps in the right direction by permitting an open season of only fifteen days, that is from October 15 to November 1, and allowing a bag-limit of only five birds daily.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

THE MIGRATORY BIRD TREATY BILL

In the last issue of BIRD-LORE reference was made to a bill introduced in Congress on January 13, 1917, by Representative Flood of Virginia, the purpose of which was to give force and power to the treaty for the protection of migratory birds ratified between this country and Great Britain on December 7, 1916. That Treaty, it will be recalled, covers the main provisions of the McLean Law for the protection of migratory birds enacted in 1913, concerning the constitutionality of which some question has been raised.

The same day that Mr. Flood took this action a similar bill was introduced in the Senate by Senator Hitchcock of Kansas, and was referred to the Committee on Agriculture.

As the session of Congress this year terminated on March 4, it was apparent from the beginning that energetic action must be taken if we hoped to get a consideration of the measure in the jam of legislative work that Congress must consider. This Association at once began an active campaign in its interest. Many circulars were sent to members, affiliated societies and clubs, and to persons throughout the country who, it was thought, would be interested in learning of the situation. As a result thousands of letters and telegrams were despatched to the Senators and Congressmen requesting their support.

The Secretary of the Association spent most of the time in Washington during the last six weeks of Congress. At the expense of the Association, John H. Wallace, of Alabama, and Alva Clapp, of Kansas, went to Washington to consult with their Representatives and acquaint them with the sentiment at home on the subject. As a result of the educational work thus done, an abundance of votes was secured in both Houses to pass the bill if it could be brought up for consideration. With some amendments the bill was reported favorably by the Foreign Relations Committee in the House and the Agricultural Committee in the Senate, but further than this no action was taken.

As our readers are well aware there was an unprecedented amount of delay and confusion in reference to many administrative bills during the closing days of Congress. An immense amount of good work however, was accomplished, and at the special session of our national lawmakers called for April 16, 1917, the bill will again be introduced and its consideration will be pressed.

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HOSTS OF WATER-FOWL IN LOUISIANA

Mr. E. A. McIlhenny, who keeps well-informed as to conditions about the bird-refuges in southern Louisiana, and to whose skill and generosity we owe the admirable photograph accompanying this article, reports, in a letter quoted below, that water-fowl are extraordinarily plentiful there.

"The past summer was most favorable for the growth of duck-feed, and the marshes, ponds, and lakes were filled with all kinds of the most attractive feed for Ducks and Geese; and in the early fall the Ducks and Geese came in enormous quantities. The fall and early winter . . . were very dry, and the birds congregated in amazing numbers wherever there was water. The principal centers for bird-population were: for Pintails, Mallards, and Teal, on both sides of the Grand Chenier Ridge; for Mallards and Teals on the Ward-McIlhenny tract, between the camp and the Gulf; and great quantities of Canvasbacks, Scaups and Redheads occupied the lakes of this tract and the State Game Preserve. On Marsh Island vast numbers of Gadwalls, Baldpates, and Mallards were to be found, and great numbers of Blue Geese, with a few Snow Geese, occupied Marsh Island throughout the entire autumn. These Geese later moved to the Grand Chenier tract in the vicinity of Constances Bayou, where they congregated in enormous numbers, and where there are still a great number. At present there are more Ducks on the Louisiana State Preserve than I have ever known there. On the lake near my camp I estimate there are 40,000 Canvasbacks; and on the Louisiana State Game Preserve and Lake Fearman, and on the North and South lakes, vast numbers of Canvasbacks, Scaups, Baldpates and Gadwalls. Teal are everywhere, and the present winter has shown a greater wild-fowl population on the Louisiana refuges than ever before."

DUCKS IN WINTER ON A LOUISIANA REFUGE

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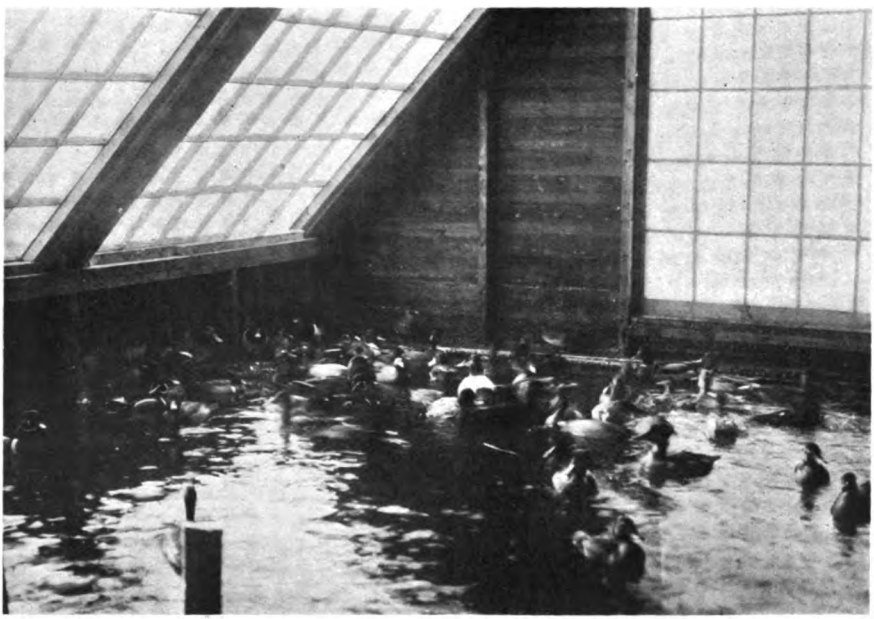
THE AMSTON EXPERIMENT STATION

Readers of BIRD-LORE, and of the Annual Report of the National Association, are aware that Mr. Charles M. Ams has acquired an immense tract of virtually wild land in eastern Connecticut, and has fitted up in one of the lakes within it a model breeding-place for wild ducks to be cultivated in captivity. Mr. Ams has now declared the entire tract a wild-life sanctuary, and has posted it accordingly. Further, he has signed an agreement giving the National Association of Audubon Societies full use of the property as a sanctuary and experiment station under the oversight of Herbert K. Job. Mr. Ams pays all expenses for work mutually agreed upon, and provides the necessary labor, including the services of an expert game-keeper.



SCENE IN THE GLASS BREEDING-HOUSE AT AMSTON

When this photograph was taken, ten species of Ducks were swimming about in comfort, although the temperature outside was 15° below zero

At the Experiment Station nesting and feeding devices will be placed with a view of collecting various data of practical importance. The planting of food-bearing vegetation will be carried out in a way to teach the public what and how to plant.

For beginning the propagation of wild water-fowl an ideal small pond and adjoining swamp- and grass-land have been enclosed with a seven-foot, vermin-proof fence. A water-fowl breeding-house out in the pond, with glass front, comprising a swimming-pool and float, has been constructed, and the breeding stock already obtained has wintered finely. It consists of most of the more important and valuable species of North American wild Ducks, and some other water-birds. Unusual facilities will be afforded for scientific and practical studies, including the growing of aquatic food-plants.

Stocks of the Bob-white and of the Scaled Partridge or 'Blue Quail' have been secured, and coöperative experimental

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work elsewhere with other species is under way, which later will be centered here. A large commercial game-farm is to be established near by, and may be visited for purposes of further instruction.

Need has long been felt of some place reasonably accessible where all these practical methods with wild birds and game could be observed and studied. To accommodate visitors and students, Mr. Ams is opening a small hotel and a public garage. Also, he has placed at the disposal of the Association an attractive house, in which will be placed an exhibit of bird-specimens for study, pictures of birds, Audubon literature, and apparatus for feeding and attracting birds. Mr. Pearson, Mr. Job, and others will be in attendance during the coming summer season, and will be glad to meet and interest those who come. There is good fishing, boating, and bathing on the large lake, which is less than a mile from the railroad station, while the hotel and exhibit are close by. Good camp-sites on the lake may be available by special permission for parties who really come to learn and who present satisfactory references.

During the season of 1917 the work will be tentative and experimental, but there would seem to be an excellent opportunity here for the building up of a summer school of ornithology and game-keeping, and of a bird-lovers' camp and cottage colony. The development of this unique project will be watched with interest. Those who desire to engage accommodation in advance may write to H. Rohde, Superintendent, Amston, Connecticut.

Casual visitors by train or other conveyance may come at any time.

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NEW MEMBERS AND CONTRIBUTORS

Enrolled from January 1 to March 1, 1917.

Life Members:

Barrows, Ira
Chahoon, Mrs. George, Jr.
Colgate, Henry A.
Curtis, Mrs. Anna Shaw
Ellis, Ralph
Ford, Mrs. Bruce
Hunter, Anna F.
Osborn, Prof. Henry Fairfield
Wister, John C.

New Members:

Abbott, Mrs. Frank Ely
Amerman, Rev. J. L.
Audubon Association of the Pacific
Badger, Mrs. Horace D.
Bailey, Mrs. William J.
Barnstein, Lydia
Bartlett, Clay
Beaham, Gordon T.
Beal, Mrs. Howard W.
Beardsley, Mrs. O. D.
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Birdsall, J. L.
Bishopric, Mrs. Allison
Blackinton, Mrs. Fred L.
Blanchard, Mrs. Emma J.
Boal, Mrs. Ayres
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Bryant, M. L.
Calkins, Mrs. Alice H.
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Carey, Miss Mary deP.
Casement, Mrs. Frances M.
Chase, Sidney
Chiles, R. A.
Clark, Miss Anna M.
Clark, Edward H.
Clark, Mrs. Edward H.
Clark, Mrs. George M.
Cleaver, Miss Elizabeth K.
Cobb, Mrs. James Shepard
Cocheu, Dr. Lindsley F.
Coles, Miss Julia W.
Colorado Museum of Natural History
Cordes, William
Corliss, Miss Maria L.
Craven, Frank
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NOTES FROM THE FIELD

Progressive Florida!

Two years ago the Florida Legislature abolished the state game-warden system, the advocates of this action claiming loudly that the birds could be better protected by the use of officers appointed locally, providing the various county officials should deem it necessary to have wardens. This was done despite the energetic protests from this office and the active opposition of the State Audubon Society. The results are just as were to be expected.

The following quotation from a letter recently received portrays a typical example of the conditions existing in that benighted state:

"In the show-window of one of the leading hardware merchants of Bradentown, among other lawless displays, stands a white Egret in full plumage. One citizen, who is an enthusiastic bird-protectionist, tells me there has been much comment on this mute bird standing there in defiance of all state laws, but the transgressors go about their affairs smiling, regardless of comment. Also a party of five or six men slaughtered thirty deer—among them several does.

"What can be done? The whole thing is a crying shame, and here where so much has been said and done. I do so want to see these 'leading citizens' made an example of in the courts."

Bradentown, to which our correspondent refers, is the county-seat of Monroe County, Florida. It is an attractive, progressive town on the south bank of the Manatee River near the mouth of Tampa Bay. It is a nice place to visit if one is willing to shut his eyes and ears to what may readily be seen and heard in reference to an utter disregard for bird- and game-protective laws.

Death of Miss Leona Robbins

The Colorado Audubon Society and the cause of bird-protection in the Pike's-Peak region, suffered an irremediable loss when Miss Leona Robbins, Secretary of the Society, and a devout bird-lover, died on January 7, 1917. Miss Robbins was not only enthusiastic and effective in her labors for the benefit of the birds, but was an artist-teacher of high repute, and greatly esteemed by those who knew her in either capacity. For several years she coöperated with Dr. W. W. Arnold and Edward S. Warren in their work for better bird laws, and she also maintained a bird-hospital at her Ivywild home.

Walt F. McMahon

The office staff of the National Association was increased on February 1, 1917, by the accession of Mr. Walt F. McMahon as an active assistant. Mr. McMahon came to us from Boston, where for a year previous he had devoted his entire time to the duties of Secretary of the Massachusetts Fish and Game Commission, an experience which gave him valuable training in legislative and conservative matters generally. Before that he had spent two

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years with Mr. E. H. Forbush in the research work and drawing of illustrations required by the annual reports and frequent bulletins issued from Mr. Forbush's office; and this gave him a wide view of the field of bird-protection. Mr. McMahon has become an expert in the planning and management of bird-protective exhibitions. bird-box contests, and the like. Audubon Societies and schools are holding these useful exhibitions more and more; and this Association, which has always encouraged them, is now glad to be able to render increased assistance.

A STAND BUILT OF FRUIT-BOXES

The Bob-White in Ohio

For the past five years there has been an absolute close season on Quail shooting in Ohio. The time set by law was about to expire, and the question arose: Shall Quails be shot or shall they be protected for another term of years? This Association favored continuing the close season for at least two and perhaps five years, and our Ohio agent, Dr. Eugene Swope, began a campaign looking to this end, when lo! the farmers of the state took up the fight, and demanded that the bird be protected for all time, and the Ohio Legislature has passed such a law!

An Inexpensive Food-Stand

The accompanying photograph shows an interesting feeding-station erected by Mrs. William H. Dunshee, of Cedar Rapids, Iowa. It is made of three fruit-cases held together by corner posts that raise the entire structure about 18 inches above the ground. Each shelf is provided with a tray of galvanized screening, bent up at the edges to prevent the food blowing off. In case the snow blows in, warm water may be poured through the trays. The broad, projecting roof is a good feature, and the system of perches provided for the little boarders is very attractive. Unless backed against a tree, as shown in this picture, it would be well to have the station partly enclosed at the back to protect the birds and yet have an exit. Cords or wires from the corners would prevent its blowing over. The picture shows a Cardinal on the ground, two Chickadees on the perches and Juncos.

Sustained Effort

The importance of "Keeping at it" in the education of the public on the subject of bird-protection is as great as in any other effort at public improvement. It is a pleasure to learn, therefore, that the Civic Club of Chambersburg, Pennsylvania, is to organize during the coming season another fine exhibition of bird-study, feeding-devices, etc., like that which was so successful last year.

Value of the Index

A lady in Minneapolis writes us this pleasant note after examining the new 'Index' to the first fifteen volumes of BIRD-LORE:

"I am finding out what a storehouse of treasures BIRD-LORE really is; and tho I have only the last volume myself, I find that our Library has all of them, and I want this key to the treasures."

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No. 3

MAY—JUNE, 1917

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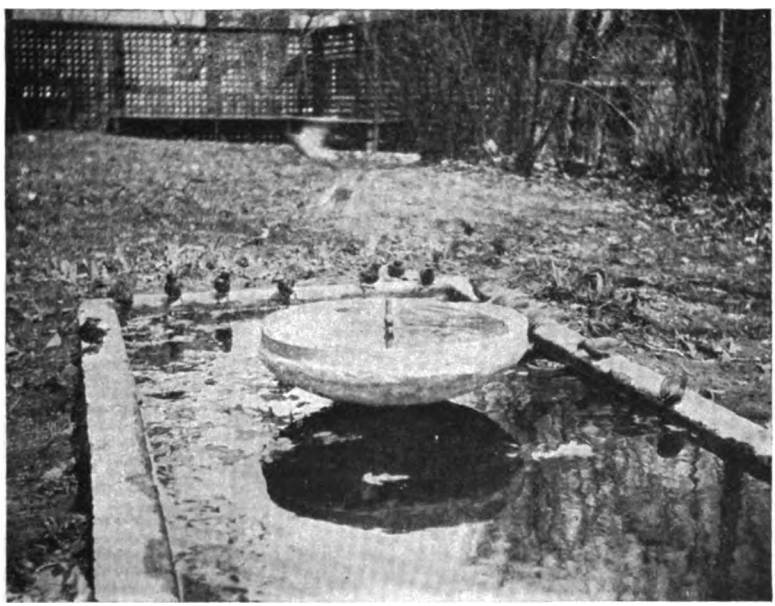

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FRANK M. CHAPMAN

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Bird-Lore

May-June, 1917

CONTENTS

GENERAL ARTICLES PAGE

LEAST BITTERN. Photograph. *Verdi Burtch*.. 126

OUR NEIGHBORS OF THE GRAPE-VINE. Illustrated by the author. *Theodore Macklin*.. 127

BIRD GARDENING ON CAPE ANN. *Frank G. Speck*.. 132

A SCHOOL-SUSTAINED BIRD RESERVATION. *Ralph E. Wager*.. 135

TWO BLUEBIRD TENANTS. Photographs. *Avis Criss and W. R. Boulton, Jr.*.. 138

NOTES FROM FIELD AND STUDY 139

A REMARKABLE NESTING-SITE, *William I. Morgan;* A SUBSTITUTE FOR A HOLLOW LIMB, *Fred Gallup;* MOCKINGBIRD IN CLEVELAND, *S. Louise Patteson;* A SUCCESSFUL BIRD-BATH, *Mrs. Arthur F. Gardner;* A BOSTON WOOD-DUCK, *R. P. Bigelow;* CEDAR WAXWINGS AT THE POOL, *John B. May, M.D.;* A WREN'S NEST INSIDE A HORNET'S NEST, *F. Schwerdtfeger;* BIRD NOTES FOR 1916, FROM ORIENT, L. I., *Roy Latham;* BIRD-LIFE ON THE BORDER, AS SEEN BY A NATIONAL GUARDSMAN, *Private Lawrence I. Grinnell;* A STONE BIRD-BATH, *Margaret S. Hitchcock;* THE TENANT OF A BACK YARD BRUSH-HEAP, *W. B. Mallory;* THE HISTORY OF A MARTIN-HOUSE, *R. W. McDowell;* BIRD-BOXES AND SIGN-BOARDS, *A. J. Anderson;* STARLINGS AT PROVIDENCE, R. I., *Mrs. A. C. A. Brown;* STARLINGS AT CARLISLE, PA., *Emelin Know Parker;* EVENING GROSBEAK RECORDS, *Editor;* INTERESTING WINTER BIRD RECORDS IN NORTHERN NEW JERSEY, *B. S. Bowdish;* YELLOW-THROATED WARBLER IN BROOKLYN, N. Y., *Edward Fleischer;* BIRD-PROTECTION IN THE WAR-COUNTRIES, *Alice W. Wilcox.*

THE SEASON 151

BOSTON REGION, *Winsor M. Tyler;* NEW YORK CITY REGION, *Charles H. Rogers;* PHILADELPHIA REGION, *Julian K. Potter;* WASHINGTON REGION, *Harry C. Oberholser;* OBERLIN REGION, *Lynds Jones;* KANSAS CITY REGION, *Albert E. Shirling.*

BOOK NEWS AND REVIEWS 155

PEARSON'S 'THE BIRD STUDY BOOK'; DAVIS'S 'BIRD POEMS'; FORBUSH'S 'NINTH ANNUAL REPORT OF THE STATE ORNITHOLOGIST'; HARD ENBERGH'S 'BIRD PLAYMATES'; THE ORNITHOLOGICAL MAGAZINES; BOOK NEWS.

EDITORIAL 157

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT 158

THE NEED OF THE NATIONS, *A. H. W.;* JUNIOR AUDUBON WORK; FOR AND FROM ADULT AND YOUNG OBSERVERS.

EDUCATIONAL LEAFLET No. 92. THE WHITE-THROATED SPARROW. With Colored Plate by Bruce Horsfall. *T. Gilbert Pearson*.. 172

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT 176

RECRUITS FOR CONSERVATION; AN APPEAL FROM RUSSIA; COMMENT ON CURRENT EVENTS; NEW MEMBERS AND CONTRIBUTORS; NOTES ON AUDUBON WORK.

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LEAST BITTERN
Photographed by Verdi Burtch, Branchport, N. Y., May 7, 1916

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XIX | MAY—JUNE, 1917 | No. 3

Our Neighbors of the Grape-Vine

By THEODORE MACKLIN, Manhattan, Kans.
With photographs by the Author

SIGNS of spring had indeed come. One of the neighbors' little folks had surely seen a Robin perched far up on the cottonwood tree across the way and in the joyful mirth of childhood had hastened to its mother with the first news of the season. A few days later when a weather relapse brought a severe sample of the wintry days almost agone, five badly chilled Robins were seen grouped on the bare twigs of a scarred plum tree. The next morning a carpet of white greeted any of the redbreasts which had not hastily flown south.

One afternoon a few weeks later a visitor was seen hopping about on the grape-vine that in summer shaded the back porch. During the days that followed it was casually noted that Robins frequented the yard, the old garden spot, and frequently the grape-vine. Curiosity got the upper hand, and observation showed that the Robins were bent on making a home of their own in plain sight of our kitchen window. What a strange place it seemed for a nest to be made! Had the Robins thought of the chance for a cat to climb the two by four scantling and make an unwelcome visit? Had they chosen well to build within six feet of the back steps and within easy reach of any passerby?

When the Robins came the weather was too cold to permit the use of the back porch, and the Robins saw no one who might in the future become a cause for worry. The work of nest-making was started and finished long before

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time to spade the garden, and, so far as the Robins were concerned, their choice had been ideal.

Then came days of warm sunshine, when the grass had grown up deep and bright green, when the tree-buds were bursting into leaf, and everywhere gardens were scenes of spading, raking, and seed-planting. The back porch was once again called into usefulness, to the inconvenience of Mother Robin. Every time the kitchen door opened, the frightened bird rapidly slipped off her nest and sailed out onto the ground. She never made a sound but, with the instinct to deceive, left the nest as if her departure had been without the least concern. And then when silence was assured, and the cause of alarm had

BROODING AND PANTING

gone, the faithful little bird was seen flying from some nearby spot toward her trust. She would alight upon the vine, look and listen for a moment, and then hop up onto the edge of the nest. For a short time she would stand there, turning her head about as if fondly looking down and admiring something in the nest, and then carefully, softly she would snuggle into place.

One day after the Robin had been kept from her nest unusually long because of the spading being done in the garden, a few feet away, she became restless, and from the branch of a little apple tree chattered out a whole lesson in scolding. She knew that it was high time for her to be back there on the nest, and, besides, evening was fast settling her twilight shades upon the grape-vine. Wonderful instinct it is that makes each little mother bird know how long her nest may safely be left. In the middle of the day, when the sun was shining,

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she was willing to spend more time away than later when the atmosphere was cold.

A few days later, during a period of observation, the male bird was seen cheerfully hopping about the garden and lawn in characteristic Robin style. First he would take a half dozen rapid hops, come to a stand, cock his little head to one side and listen. Then, with a sudden thrust of his bill, some bug, taken unawares, was caught. For some reason the skilful little hunter was saving up his catch, for before long a goodly feast of various morsels was dangling from his bill. He flew to the nest, perched there beside the sitting mother, and proceeded to feed her when she opened her begging mouth. It was a

WHICH ONE FIRST?

curious sight to see this procedure! Before long, however, the mother bird half arose from the nest, and her head was lowered while she appeared to be busy with something beneath her. Curiosity again gained the upper hand. From a stool I peered into the nest to find there three tiny birds, soft, weak and downy, but quite able to open their voiceless little mouths. Only two days before three small, delicate, faint blue eggs had been where now the babies lay. There was not a sign of broken shells about the nest, nor did search reveal them on the ground below. The old birds had disposed of them in their instinctive way. And now it was clear that the father Robin was devotedly performing his part in caring for the wee birds by providing the food which in turn the mother fed to them.

The delicate little babies did not require the personal care of the mother in feeding very long. The next day both parents were continually flying to and

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from the nest, with meals served at all hours. The old bird's head would almost disappear in the nest while the feeding was progressing for the babies were so small and weak.

There are many tragedies that befall the careless or unobserving Robin parents. But our neighbors of the grape-vine were never caught off guard. While the youngsters were small, one of the old birds was constantly near the nest, if not actually standing on its edge or brooding over it. When the little birds were feathering and their heads were visible over the edge of their home, both birds would leave the nest indefinitely, although one or the other seemed to be constantly observing from some inconspicuous vantage-ground.

During a half hour, one afternoon, several battles in the surrounding trees resulted in victory to our Robins. They had apparently fed their growing triplets enough for the time being. Mother Robin was the only parent in sight, and she stood preening her feathers on the branch of a plum tree. The harsh, shrill cry of a Jay sounded, and a light blue bird stopped nearby. The Robin hesitated a moment, as if locating the intruding outcast, and then deliberately flew straight at the Blue Jay. A moment later the Jay dashed out from the dense foliage and was off for more peaceful quarters.

Soon after, another Jay grew bold enough to alight in the garden. It was apparently too close to the nest for safety, for a cry of alarm from the Robin on guard brought her mate from an unseen position and together they drove the enemy forth.

From time to time it was interesting to feed the little birds. Their parents seemed to feed them anything available, from bread crumbs to grasshoppers and from insect larvæ to earthworms. One day I spent an hour digging part of a tin pail full of worms which the greedy little rascals eagerly ate when dropped into their yawning big mouths. But the old Robins became furious and started up a warning chatter which seemed to chill the little ones with fright. They ceased to hold up their cavernous mouths and cowered into the nest as close as they could. It seems wonderful that such young birds can understand the various signals. So far as fear on their own account is concerned, they do not seem to have it until their wings are grown sufficiently for them to leave the nest. On the contrary, they snuggle into a hand just as they do the nest unless warned by the enraged old folks.

The wee little birds changed rapidly. At the end of the first week their eyes were open and their feathers had sprouted all over. Their bills, at first mere soft and wide openings as it were, elongated and took on a bird-like form. The necks grew strong so that, when the parents came up with food, their heads were lifted far up and their gaping mouths entreated for the first share. The act of placing a morsel in the mouth of the young is accomplished so rapidly that it is all but invisible.

At an early stage the young Robins commenced to preen their pin-feathers. They would move their overgrown heads about in a most awkward manner

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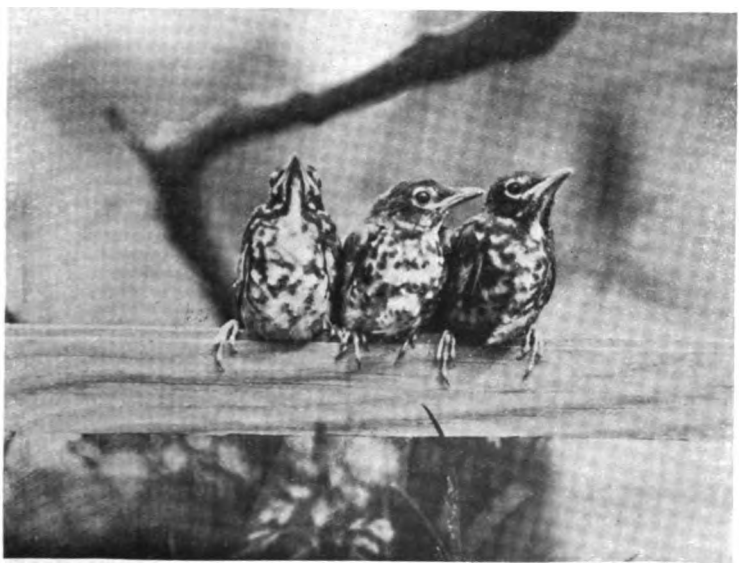
long before there were feathers to clean or before their bills were even hard. But with the help of preening and the bounteous meals, wings and tail-feathers grew out rapidly. The weak, tottering legs strengthened, and the youngsters began to stagger to their feet. They were almost ready to leave the nest. Day after day, when the sun beat down on the nest, Mother Robin sat on the edge to shade her little ones. When she was frightened away, three heads hung out over the nest's edge. Their bills were open wide, and they panted for breath. When the Robin had shaded the nest, the youngsters huddled into the shade under her and, she in turn stood the heat by panting.

But at last came the day for leaving the nest. I had not realized that each little one was now a Robin full confident that to jump from the nest would not be to fall. So when close to the nest I started to reach up I was greeted by three noisy little throats as the youngsters fluttered out and away. They did not go far. But it was the last day that they might have been induced to pose and no time was lost in rounding them up. One was on a neighbor's porch, one hundred feet away; another was out in the garden, and the third on a neighboring lawn. Picture-taking over, the triplets were once more restored to the nest amid the loud scoldings of numerous Robins—parents, uncles and aunts—which had gathered around. That evening the nest was empty. In fact, the three had left it within an hour after the incident. They knew too much now to remain quietly at home. The Robins of the grape-vine had kept house for two months and now that the family was grown up, had moved. But occasionally still there may be seen hopping about the lawn or the garden the old folks with now and then one or more of the capable youngsters that a month before was but a tiny, pale bluish egg.



"THEY WERE INDUCED TO POSE"

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Bird Gardening on Cape Ann

By FRANK G. SPECK, Gloucester, Mass.

KNOWING the helpfulness of the experiences of others in undertaking anything that is new, I began last year to go through the correspondence columns of BIRD-LORE for suggestive ideas. Having tried 'bird gardening' on a small scale now for my first year, I feel advanced enough to press myself into the company of those who think that they have perhaps something worth while to say.

Owning a small tract of land with a frontage on the Annisquam River and covered with a small beech grove and a tangle of briars and berry bushes for the most part, I undertook my experiments here. The river is entirely of salt water, miles of marshes lie to the north and west over which rises a twelve-foot tide, while at the rear is a dry, brushy region with almost no timber but no end of impassable thicket plentifully strewn with boulders. Small freshwater pools lie in places where water remains in them for nearly the entire summer. Our nearest timber of importance lies several miles to the west, forming the green woods of Essex County, in whose rolling hills and timbered wastes still are found deer, foxes and raccoons in some numbers. Thus I am fortunate in being in the midst of a diverse environment suited to the requirements of the different bird families. The peninsula here is known as Cape Ann, and being nearly surrounded by the sea and exposed to its severities, the region seems to exhibit some peculiarities in its fauna. Although having no better authority than my own observation to base my statement upon, I am, nevertheless, inclined to think that the abundance of marine and coast birds is compensated for in the scarcity of some other kinds which favor more timbered inland localities. Only a small portion of the Cape is covered with forest, much of which is beech, oak, and white pine.

My bird experiments began with an effort to increase the attractiveness of the wild thicket of my place by affording nesting-sites, providing food and shelter for the birds and, most important of all, by destroying the feral cats which are such a constant menace to the wild bird life of every district that lies near a large town or in the neighborhood of farms. Up to the present time this year I have had to destroy eleven marauding cats, and there recently appeared upon my small claim another which will have to be trapped this fall. I have been astonished at the fact, which I never realized before, of the tremendous mortality among birds caused by this animal. Persistent shooting and trapping cats with fish-baited traps has not succeeded in protecting from decimation the season's young of birds nesting in my neighborhood.

For the past three years a family of Tree Swallows has occupied a box close to the cottage, but no amount of effort could induce another pair to settle in any of the other houses placed out for them. The original settlers have fought them away. I hope that these fine creatures will some day change their

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habits and grow more tolerant of their kind during the breeding season. A heavy gale, which swept the country in June, caused me some anxiety as to the welfare of the Swallows on account of the scarcity of insects during the three days of rain. The birds, however, benefited from a scheme that I hit upon—putting a piece of fish carrion on the lattice near their pole, which attracted some flies. These they continually took, hovering over the carrion in a way that showed how much they needed help at the time when their young were about half-grown. Five young ones at last were reared by this pair by July 4.

Unfortunately, there seems little prospect of the Purple Martin ever coming to this part of the state. Three years ago, Chimney Swifts favored us by homing in the chimney, but since these two families left, no others have come.

In a sweetbriar tangle, not thirty feet from the cottage, a family of Catbirds have nested and Brown Thrashers were not far from them. These confiding neighbors were constantly in sight, feeding upon the bread, oatmeal and cereals which we threw upon the small lawn for them. I am quite convinced, though, that their offspring all fell victims to the ubiquitous cats. Two hundred feet away, in a barberry bush, another pair of Catbirds raised two young in a more favored retreat.

Undoubtedly the most abundant, and certainly as satisfactory as any of the small birds, are the Song Sparrows. These, with a few other species of the Sparrows, throng our food-trays, as many as twenty having been seen in one flock within a space of twenty feet square, where I threw out my seed refuse from the cages of some foreign Finches which I keep. The latter are unquestionably the cause of attracting many native birds, not only by their song, but by their presence. In the bird-house where they are kept with other reptiles and animals under observation, I have found Song Sparrows, a Maryland Yellowthroat, female Redstart and a Vireo.

The wild birds are beginning to know how to find their way in and out of the constantly open door and windows. In the immediate vicinity of the cottage, if not within sight of the porch, are the nests of the Baltimore Oriole, Purple Finch, two pairs of Cedar Waxwings, Yellow Warbler, Maryland Yellowthroat, two pairs of Robins and the Chipping Sparrow. The latter lost her three nestlings during the severe storm in June. A Robin nesting beneath a neighbor's porch also lost a nest of seven eggs at the same time.

Black-billed Cuckoos spend much time in our trees. Frequent visits from several young Cowbirds with their Song Sparrow foster parents, characterize the day's events at the food-tables. Again, during August, the tables containing kitchen refuse will be visited early in the morning by as many as twenty Bronzed Grackles. While looking from my window at the same time, several Brown Thrashers, a Catbird, several Robins, occasionally Crows at the more distant trays, have been seen feeding; while, no doubt attracted by the company, a Flicker, some pugnacious Kingbirds, and a darting Warbler may be

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glimpsed. As yet no Chicadees have come to nest, but at times one or two will spend an hour or so with us, and this winter suet and suitable boxes will be placed for them as well as for Nuthatches which we often see. Redstarts and Chestnut-sided Warblers come to the beeches and oaks, but I have found no nests, though they may be there.

A hundred yards from my hillside is a meadow where Bobolinks have come to nest within the last three years. There were about four pairs there this spring. Red-winged Blackbirds, too, are on the decided increase. These increases are very gratifying, and we are hoping that other species may come. The Purple Finches are new to this immediate vicinity, and I think may be held here by keeping an abundance of sunflower seeds on the ground for them. They come down with the smaller Sparrows for the seeds. The bird concourse is swelled at times during the summer by obscurely marked visitors which I am not wise enough to identify. I am sorry to say, however, that the most careful watching has not disclosed the presence of the House Wren in this vicinity.

In order to learn the density of bird population in some of the districts on the Cape, I combed over several orchards in different districts for nests, and then watched results. In such a count allowance should be made for nests that escaped scrutiny. None of the orchards were large. In one containing about thirty trees, near a house where English Sparrows were very numerous, was a Yellow Warbler, Baltimore Oriole, two Chipping Sparrows and two Robins. Bluebirds, too, had nested here earlier in the spring before I came. In another orchard of fourteen trees only, where cats were guarded against and where for the first time English Sparrows were routed out persistently, the results were proportionately better. A Bluebird family raised two young out of five eggs, a Cedar Waxwing succeeded with her brood, a Robin nested and succeeded, and a Song Sparrow brought out three young from a nest in a brush-heap. No accommodations had been previously made for the birds in this spot, but this year, by winter feeding and placing boxes and eradicating vermin, the place will be prepared. In another orchard, more remote from the farm, about two acres in extent, with a marshy meadow in its midst, were two Red-winged Blackbirds' nests, each with three eggs, a Flicker's with nine, two Bluebirds, and some Robins. A farmer who had only a few apple trees put up two Bluebird boxes and had both successfully occupied.

By passing about copies of BIRD-LORE, with its stimulating news from other parts of the country and its information, I may add that the infection of the bird-gardening idea has taken root quite generally in several parts of the Cape, and boys, as well as landholders, are already placing bird-houses, watching the birds, and, some of them, destroying their cats as a first measure.

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A School-Sustained Bird Reservation

By RALPH E. WAGER, De Kalb, Ill.

THE following account of the establishment of a school-sustained bird reservation may be of service to some who are interested in the general problem of the conservation of our wild-bird life. Could high schools, normal schools, even colleges and universities, be stimulated to undertake the protection and care of bird reservations, it would do more to develop a keen personal interest on the part of students and, therefore, in those who later are to hold the reins of government and mold public sentiment than volumes of writings and numberless lectures. Such an undertaking presents a definite problem which must be solved in some definite manner.

Not only so, but it is also true that it is entirely practicable. There is in every locality a woodland or uncultivated tract of some sort, which may easily serve the purpose of a bird reservation. It becomes such the moment definite steps are taken to prevent wilful or preventable destruction of bird life upon it. From such a center of effort and accomplishment there radiates an influence over wide territory.

Some years ago the writer visited a grove, situated in Ogle County, Ill., and annually occupied as a nesting-site by a colony of Black-crowned Night Herons. Although but a comparatively small tract of planted Norway spruce, there were, nevertheless, between seventy and eighty pairs of the birds occupying it. Inquiry revealed the fact that the colony had in the past been rather frequently raided by hunters. At one time, if my memory serves correctly, sixty-five of the birds were killed and hung up on the nearby wire fence in evidence of the skill and valor of their destroyers.

More or less periodic visits were made for the purpose of studying the birds. The complete destruction of two rookeries in the northern part of the state of Illinois suggested the desirability of making secure the one known to the writer.

The farm on which the grove is located is owned by families under the name of Sedgwick and Bebb, but the local management is given by Mr. W. W. Jones, a gentleman in thorough sympathy with all good movements, and hence with that of conserving wild life. It was therefore suggested to Mr. Jones that an effort be made to establish the two or three acres of wooded land as a reservation. The suggestion met with a hearty acceptance. Mr. Jones took the matter up with the owners and secured their coöperation. The proposition was then placed before the students and faculty of the Northern Illinois State Normal School. The students contributed five or ten cents apiece to defray the necessary expenses, and by similar annual payments the necessary moneys are to be raised. By vote of the faculty the school placed itself on record as being behind the movement, and the president signed the papers, which are here reproduced.

Signs were then prepared and transported to the grove and placed in con-

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spicuous positions, giving notice of the fact that the grove is a bird reservation and warning against shooting.

Arrangements were made with the tenant on the farm to act as warden, and here again hearty coöperation was secured. Many a hard-headed man will take hold of such a problem if he sees that it is really a serious undertaking. The farmers in the locality are intelligent people and are interested in the reservation.

In so far as is known no efforts have been made to molest the birds since the protection was undertaken. On the other hand, the owners of the farm, as

AN OBJECT LESSON IN BIRD PROTECTION

also Mr. Jones and his family, are planning certain improvements which shall add to the conveniences of those who may desire to visit the grove, as well as to the safety of the birds themselves. Altogether a most happy condition exists, and the writer is certain that there are hundreds of opportunities for the establishment of reservations in a similar manner if only schools shall undertake their part.

The contracts are herewith reproduced in the hopes that they may suggest like ones for many educational institutions.

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CONTRACT WITH WARDEN

The students and faculty of the Northern Illinois State Normal School, desiring to maintain on the farm of Sedgwick and Bebb, in Ogle County, Ill., a bird reservation, do hereby contract with Ernst Moth to serve them in the capacity of warden over said reservation.

Said Ernst Moth agrees to perform, to the best of his abilities, the following duties in his capacity as warden:

I. To erect not later than Apr. 15, and to remove and store in a suitable place not later than Sept. 1, the signs provided for the purpose of warning against shooting and otherwise molesting the birds during or after their nesting-season.

II. To prevent, in so far as is possible, the use of firearms or other instruments of destruction, on or near the grove in which nest the birds for the protection of which this contract is drawn.

III. To report to the proper authorities and to assist in the prosecution of such as may violate the law of the land in the molestation or destruction of birds nesting in said grove, and to coöperate in such measures as may in general result in the welfare of the birds therein nesting.

In consideration of the performance of these duties the faculty and students of the Northern Illinois State Normal School agree to pay to Ernst Moth the sum of ten dollars ($10.00) on or before July 1 of each year during which he continues to perform the duties of warden.

[Signed] John W. Cook, President Northern Illinois State Normal School.
[Signed] Ernst Moth.

CONTRACT WITH THE OWNERS OF THE FARM

A colony of Night Herons is accustomed to nest in a grove of Norway spruce and European larch on the farm of Sedgwick and Bebb, said grove being some twenty rods from the N. line and about thirty rods from the west line of the S. ½ of the N. E. ¼ of Sec. 4, T 25, R 10 E. of the 4th P. M.

The purpose of this contract is to secure the protection of the birds which nest in said grove.

In consideration of this protection the owners of the grove, Clara M. Sedgwick, Samuel H. Sedgwick, Mary A. Bebb, and Edwin Bebb give to the faculty and students of the Northern Illinois State Normal School full authority to adopt and put into execution such measures as may by them be deemed advisable in order to secure such protection.

It is further agreed on the part of both parties to this contract that the right of owners or tenant to cut and remove trees from said grove shall not be disputed, and that if it becomes necessary for the purposes of protecting the birds to erect fences other than now exist, the expense of so doing shall be borne by the members of the Northern Illinois State Normal School who shall at the time be responsible for the maintenance of this contract.

This contract is to extend over a period of five years, with no compensation for the owners other than the right of coöperating in such measures as lead toward the protection of the birds and the properties concerned.

[Signed] W. W. Jones, Agent for Sedgwick and Bebb.
[Signed] John W. Cook, President Northern Illinois State Normal School.

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Photographed by W. R. Boulton, Jr., Beaver, Pa.

Photographed by Avis Criss, Amsterdam, N. Y.

TWO BLUEBIRD TENANTS

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Notes from Field and Study

A Remarkable Nesting-Site

One day during the month of June, 1915, a pair of Yellow-breasted Flycatchers* were seen, to all appearances inspecting the boom of a drag-line excavator which is being operated on the Shoshone Project near Powell, Wyo., by the U. S. Reclamation Service, and the following day the birds began to build their nest. At first they were rather timid, sitting on the spoil-bank with a bit of grass or feathers until the machine stopped swinging for a minute or so, when they would put the grass in place, flying away at the first move of the boom. Thus it required two weeks to complete the nest. Gradually they became bolder and flew in and out while the boom swung rapidly. Three eggs were laid and hatched, and we had the pleasure of seeing the young fly away well matured.

On one occasion, shortly after the birds were hatched, the old birds were kept from the nest all night by the crew making repairs on the boom. Next morning, at 3 A.M., the oiler found the young apparently dead from exposure. He brought them down, wrapped them in waste, heated on the boiler, and soon had them as lively as ever. At daybreak they were placed in the nest, and soon the old birds, much excited, came to them.

This machine operated from 3 A.M. until 9 P.M., and during the nesting-time traveled about two miles along the creek on which it was working. It is by no means a quiet machine, and often we expected to see the birds, nest and all, thrown from the boom by the violent jumping and jerking as the dipper is cast out and hoisted.

I am inclosing a photograph which will give you a better idea of machine and nesting-place.—WILLIAM I. MORGAN, *Operating Engineer, Powell, Wyo.*

*Probably the Arkansas Kingbird.—Ed.

A Substitute for a Hollow Limb

On June 14, 1914, I hung an old pair of overalls on the line to dry. The next morning, about 8 o'clock, Mother called to me and said, "Look what has taken possession of your overalls." At first I could see nothing, but a moment later a bird flew out of the right leg and off to the field. So I went and sat on the doorstep,

A PAIR OF FLYCATCHERS BUILT THEIR NEST AND REARED THEIR YOUNG AT THE PLACE MARKED X IN THE ARM OF THIS DREDGE WHILE IT WAS IN OPERATION

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about thirty feet away from the overalls, to await the return of the bird. I did not have to wait long before two of them came with grass in their beaks. They flew directly to the overalls; one clung to one leg while the other went in. I watched them for about an hour carrying material into their new home, but as fast as they took it in it fell out of the bottom of the leg. So when they both had gone to the field after more material, I went up and tied the bottom of the leg.

They then worked faster than ever until about 11 o'clock, then started in again in the afternoon at 2 and stopped about 5 P.M. June 17, the nest was finished and partly lined with feathers. On the 18th they finished lining with feathers.

AN ASH-THROATED FLYCATCHER AND ITS NESTING-PLACE IN A PAIR OF OVERALLS

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On the 19th they were not seen around the nest.

The following day I was not at home, but on the 21st the nest contained two eggs, and on the 25th four eggs.

July 12, I heard young and saw the old birds bringing food. Only two of the eggs hatched.

A week later or so, the old birds were still bringing moths, butterflies, and larvæ to the young. They were seen but once after leaving the nest, when the old birds were feeding them up in a tree. —FRED GALLUP, *Escondido, Cal.*

Mockingbird in Cleveland

A Mockingbird visited East Cleveland today and sang during the day and into the night. His melody consisted of selections from the songs of the Bluebird, Oriole, Phœbe, Killdeer, Cardinal, Tufted Titmouse, Whip-poor-will, Night Hawk and Cooper Hawk, the little Owl, and others. Dr. F. H. Herrick, author of 'Home Life of Wild Birds,' regards it a most rare visitor to this district.—S. [redacted] PATTESON, *Waldheim, East Cleveland, Ohio*, April 22, 1917.

A Successful Bird-Bath

During the past season my bird-bath was such a success that I want to tell BIRD-LORE readers about it. This is the way it was made: First, a shallow box of wood was made, 4 feet long by 2 feet wide and 3 inches deep. This was plastered inside with a good cement, left rather rough. The cement was brought up at the edge even with the board edge and then sloped down to the bottom of the box. One end was more shallow than the other. When full, the water was not more than 2 inches deep in one end and about ½ inch in the other. Every two or three days I swept the water out with a broom and refilled it. It was placed under a low-spreading plum tree, so the birds did not have to fly up more than 3 or 4 feet to reach the tree. The grape-arbor sheltered both tree and bath on the street side. It was not made and put out until the middle of July, and we were away all of August, so my observations were made in September and October. This is a list of the birds I saw bathe in it: Robin, Bluebird, Junco, English Sparrows, Chipping Sparrow, Song Sparrow, White-throated Sparrow, Cedar Waxwing, Goldfinch, Yellow Warbler, and Phœbe.

A flock of fourteen Bluebirds used it almost every day, coming usually between the hours of 4 and 5. P.M. Several times I saw five Bluebirds in the bath at one time. They had a very pretty way, when they alighted on the edge of the bath, of standing for an instant with their wings outspread, as if looking at themselves in the water. October 4 and 8, eighteen Bluebirds bathed in the late afternoon. I think it was the same flock of fourteen but some went in more than once. Once I saw seven Robins in the bath at one time, and twice I saw four little Yellow Warblers bathe together. The largest number I counted in one afternoon was nineteen Robins, fourteen Bluebirds, two Cedar Waxwings, one Phœbe and dozens of English Sparrows and Chipping Sparrows. The Bluebirds came for their last bath October 13, although they were about the neighborhood until the last day of October. October 21 four Robins, five Juncos, and a large number of English Sparrows bathed. The last song-bird to bathe was one lonesome little Chippy on October 29. The English Sparrows used the bath as long as I kept water in it. I should add that we have no cat, nor do we allow a cat to come into the yard or garden during our waking hours.—MRS. ARTHUR F. GARDENER, 155 *Maple Avenue, Troy, N. Y.*

A Boston Wood Duck

It may be of interest to know that this morning I saw a male Wood Duck in the Charles River Basin. The river was frozen over, except for a small area of clear water where the overflow from the Stony Brook conduit flows into the Basin. Here was the Wood Duck, accompanied

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by two females that I took to be Mallards. They were larger than the male. All three were quite fearless and swam toward me until they were not more than ten feet away. I could see the markings perfectly. At 6 o'clock in the evening the Wood Duck and his two companions were still there, and they had been joined by two pairs of Mallards.—R. P. BIGELOW, *Boston, Mass.*, March 15, 1917.

Cedar Waxwings at the Pool

The accompanying photograph is what might be called a successful disappointment. I imagine most amateur bird photographers will understand what I mean by that.

One day last winter I went out to a hillside near Tufts College, in Somerville, Mass., in the hope of obtaining a picture of the Evening Grosbeaks that had been reported to me as daily visitors in that locality. It was quite springlike, the ground bare and soft. I traveled back and forth over the range where the Grosbeaks were reported, but there were none to be seen. I snapped two Crows on a dead pine, watched a great flock of Cedar Waxwings feeding where the Grosbeaks should have been, and at last set up the camera, with a twenty-foot extension cord, near a bird-bath or fountain in one of the yards on the hill.

The Waxwings had been coming to the bath at intervals, and at last, after quite a period of waiting, I succeeded in getting a group, as the photograph shows. Fourteen Waxwings and one English Sparrow are around the edges of the pool, another Sparrow is in the background, and at least five Waxwings are in the air, but the camera was not quick enough to show them clearly. No Grosbeaks were seen that day, but the trip was worth the time it occupied, and the picture is a spur to further efforts.—JOHN B. MAY, M.D., *Cohasset, Mass.*

CEDAR WAXWINGS AT THE POOL
Photographed by John B. May

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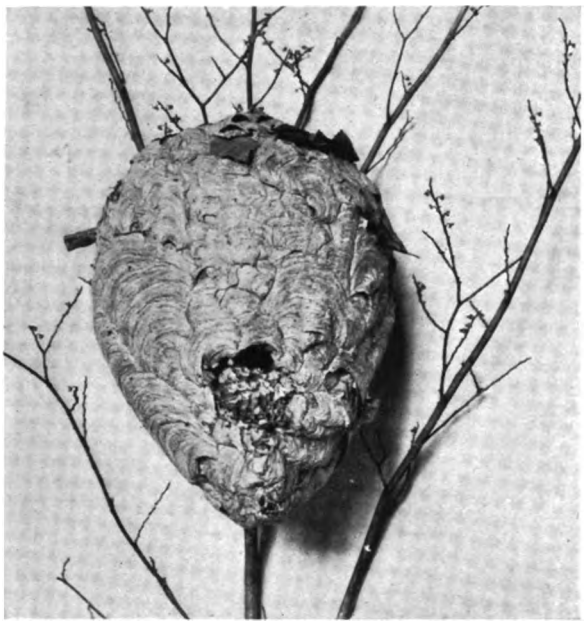
A Wren's Nest Inside a Hornets' Nest

The accompanying photograph shows a nest of the white-faced hornet which contains the nest of a House Wren.

The hornets' nest was fastened to the outside of a house in Rosendale, N. Y., in 1914. On July 4, 1915, I took it down to examine it, naturally without suspecting the presence of a bird's domicile, when two House Wren's eggs rolled out through the opening in the wall. Further investigation showed that the Wren's nest filled the greater part of the interior. The nest is now preserved in the Brooklyn Museum.—F. SCHWERDTFEGER, *Brooklyn, N. Y.*



A HORNET'S NEST IN WHICH WRENS MADE THEIR HOME

Bird Notes for 1916, from Orient, L. I.

GREAT BLACK-BACKED GULL.—One April 6, latest record by one day; former latest record, April 5, 1915.

HOODED MERGANSER.—Flock of 10, January 3, were in our waters eight days. A very rare water-fowl near Orient, especially in winter.

WOOD DUCK.—Two records for the year: A male on December 8. Female picked up dead in a neighbor's yard December 3. The bird was still warm. This specimen had an American Museum tag on its leg, which became mislaid before I could get possession of it or the numbers thereon. One wing was clipped.

CANADA GOOSE.—A flock of 32. May 5 is a new late date for last one seen. Another flock was observed on May 3. These two dates comprise the only May records in sixteen years of observations.

WHITE-WINGED SCOTER.—A flock of 14 spent the summer near Orient. Eight heretofore has been the largest number summering. All appeared to be in normal condition, sporting and flying at will. Eight were males and seven females. They kept to one body of water from May to September. This species is a regular summer visitant in the bays, but is rarely seen in the sound.

PIGEON HAWK.—One May 11, a new late record.

BLACK VULTURE.—An individual of this rare visitor was observed on June 20. I was on my knees among garden truck, adjoining was an open field containing fish fertilizer. It was here that the bird alighted, thirty-eight feet from me, my presence being unknown to the bird for some time.

TURKEY VULTURE.—One September 24.

RED-HEADED WOODPECKER.—First breeding record for the eastern end of the north shore. Its status for twenty years has been: Exceedingly rare and irregular visitant August 1 to May 4.

PURPLE GRACKLE.—One bird wintered

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over from 1915. Large flocks are occasionally recorded in mild spells in winter. One or two individuals frequently winter.

RUSTY GRACKLE.—Two on April 15 form my latest record.

RED-WINGED BLACKBIRD.—Arrived March 25. Latest date for first one seen by eleven days.

COWBIRD.—Although recorded in December, the first spring migrant did not appear till March 25, forming a new late arrival by thirteen days.

PIPIT.—Two were seen on September 10, eighteen days earlier then any previous record. Three were seen on the following day, and they were regular thereafter, ten being seen on the 15th.

SNOW BUNTING.—One April 6, latest record by three days.

BROWN THRASHER.—One wintered through from 1915. Uncommon in winter; third occurrence in sixteen years.

CATBIRD.—One wintered through from 1915. Although a very severe winter, this bird went through in excellent shape, residing continually in a cedar woods. For weeks its only companion was a White-throated Sparrow. They fed together by day and lodged underneath the shelter of the same cedar bough at night. They subsisted mostly on various seeds and berries, occasionally scratching for insects among the leaves when snow permitted.

HERMIT THRUSH.—One May 7, latest date for last one seen by seven days.

BLUEBIRD.—First migrant seen March 25. In common with other early spring migrants, was very late in arriving. This species was less rare than in the three preceding years. There were two records of it breeding in the locality, first nesting records in four years at Orient.—ROY LATHAM, *Orient, N. Y.*

Bird Life on the Border, as Seen by a National Guardsman

Most soldiers at the Border appreciate ornithology more from the culinary than the naturalist's point of view. Keen appetites, produced by long hikes, hard outdoor work and often a deficient food-supply have caused the Dove (of which there are three common varieties: the Mourning Dove, the White-winged Dove and the Mexican Ground Dove) and the Bob-White to become the best-known birds in this vicinity. A small guard of men stationed at some outpost in charge

YOUNG MOCKINGBIRD AS A CAMP PET
Photographed by Private L. I. Grinnell, Troop D, Squadron A, N. G. N. Y., McAllen, Texas.

of water or food supplies, a shotgun borrowed from a nearby ranchman, and a few hours off between periods of guard duty have strengthened an acquaintanceship with these two types of birds.

As a matter of fact, however, next to the Dove the most common bird in this vicinity observed by the writer during the summer of 1916 was the Western Mockingbird. The accompanying illustration shows a young Western Mockingbird, which was discovered hopping around in front of my tent. On being offered some cracker crumbs it became exceedingly tame and perched on our hands and hats. —PRIVATE LAWRENCE I. GRINNELL, *Troop D, Squadron A, N. G. N. Y., McAllen, Tex.*

A Stone Bird-Bath

The accompanying photograph shows a bird-bath made by chiseling in a large

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stone a cavity which will hold twenty quarts of water. We put a squar esheet of slate, with rounded corners or supports, which brought it to within two inches of the surface of the water, and it has been much used by both old and young birds of many different species. A young Robin was splashing the water in all directions when the accompanying photograph was made.—MARGARET S. HITCHCOCK, *Morristown, N. J.*

A STONE BIRD-BATH
Photographed by Margaret S. Hitchcock

The Tenant of a Back-Yard Brush-Heap

I inclose a photograph of Brown Thrashers taken in a pile of brush in my back yard here in Lennox, where they have bred for four years, and are back now preparing another nest. I presume that they are the same pair, but of course cannot say positively. They are quite tame, and I have on several occasions placed my hand on the back of the fe-

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male while she was sitting on the nest of eggs. When the young are born they are just like sitting hens, s cratching and picking my hand till the blood comes when I come too close.—W. B. MALLORY, *Lennox, S. D.*

BROWN THRASHERS AND THEIR BRUSH-HEAP HOME
Photographed by W. B. Mallory

[A pile of brush affords an acceptable nesting site to many thicket-haunting birds and induces them to live near us. It may be arranged in a short time and made sightly by training vines over it.—ED.]

The History of a Martin-House

The Martin-house here shown is arranged to utilize every available inch of space and is 35 by 35 inches square over all, 5 feet in height, and contains forty-five rooms. I have two houses, the other one being a small house of twenty-three rooms. This house has been up for the past three years, while the one shown in the picture inclosed was erected last year. I have had success from the first with my Martin colony, starting with six pairs and increasing in numbers until last year about sixty-five Martins left my houses during the latter part of August. I would have done far better last year but for the extremely unfavorable weather conditions which drove away at least a dozen pairs.

My main trouble from the start has been with the English Sparrows, and I believe that to this evil alone can be attributed the fact that so few people continue to erect bird-houses. In this vicinity there used to be at least forty to fifty Martin-houses, and I doubt very much if there are now a dozen Martin colonies within a radius of five miles. I have made inquiry of a number of the older residents who formerly maintained Martin-houses, and the invariable reply has been "Yes, we used to have the Martins around, but the Sparrows ran them off, so we took the

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box down." Now I would like to say that the prevalent idea that it is no longer possible to keep up a Martin colony with any degree of success is a mistake. It is quite true that since the advent of the English Sparrow it is far more difficult than formerly, but if a person will take the trouble either to take down his box in winter or else plug up the openings, and then use a 22 shotgun to assist in keeping down the pests, the Martins will get along all right. Naturally, if one allows his Martin-house to become filled with Sparrows' nests, the Martins will be unable to use it when they arrive in the spring; but there is no excuse for allowing the Sparrows to build a single nest after the Martins leave. My plan is to plug the doors with pieces of wood and then take them out when it is time for the Martins to arrive. I also begin my warfare upon the Sparrows early in the spring and keep it up all summer, going around before breakfast and at suppertime and picking off a few each day. For this I use a 22 Stevens smooth-bore with shot cartridges which are safe to use, even in crowded localities. Also, I go up to the boxes once a week and tear out with an iron hook any nests the Sparrows have built, and to the shame of the Martins be it said that I generally have to take out two or three Sparrow nests every week. In justice to the Martins, however, I will say that with the increase in my colony I have had far less trouble in this respect, as the Martins are not now outnumbered in so large a ratio.

In this way I have managed without a great deal of trouble to keep my Martin colony comfortably housed and to see them steadily increase in numbers. I ought to mention here that for suggestions in regard to the Sparrow nuisance I am greatly indebted to J. Warren Jacobs, of Waynesburg, Pa., who has given me valuable ideas and help.

A SUCCESSFUL MARTIN COLONY
Photographed by R. W. McDowell

I consider it a great pity that more people do not provide accommodations for our native birds. If the average

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farmer realized how many destructive insects are annually consumed by the Martins, it is likely he would be more willing to take a little trouble to keep these birds around his farm.—R. W. McDowell, *Uniontown, Pa.*

Bird-Boxes and Signboards

I herewith inclose a photo taken a short time ago by myself, which may be of possible interest for your magazine. The picture shows bird-houses placed on bulletin boards throughout the city by an advertising firm.

BIRD-HOUSES AND SIGNBOARDS
Photographed by A. J. Anderson

As I am interested in the protection of birds, this idea attracted my attention as being both useful and ornamental.

You will notice that these bird-houses are adapted more for small birds, such as Martins, Wrens, and the like.—A. J. Anderson, 3544–16 *Ave. So., Minneapolis, Minn.*

Starlings at Providence, R. I.

About the last of October a large colony of Starlings—numbering in the hundreds —established themselves within a tall church steeple, opposite me. Here they have lived all this bitter winter, leaving at dawn, flying toward the beaches. Regularly, they return at dusk.

Lately a few are on my lawn digging for something and making holes. These are the first Starlings I have even seen about here.—(Mrs.) A. C. A. Brown, *Providence, R. I.*

Starlings at Carlisle, Pa.

The English Starling has appeared in our midst as well as at Newville, Pa. I saw several of them on March 13.—Emelin Know Parker, *Carlisle, Pa.*

Evening Grosbeak Records

The Evening Grosbeak was formerly one of our rarest winter visitants, but if one may judge by the history of the past few years, we shall soon have to class it as of "regular occurrence; common locally." In addition to the large number of records which Bird-Lore has published, includ-

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ing those contained in 'The Season' of the present issue, we have received the following:

S. Paul Jones reports two males and three females at Waukesha, Wis., on March 25 and 26, and April 1, 1917. Lida Rogers sends the first authentic record of their occurrence at Holland, Mich., where a flock of about twenty-five appeared late in January, 1917, some of which were present when she wrote on March 5. Ida A. McAfee writes that she saw four males and eight females at New Bedford, Mass., on February 27, 1917. E. B. Moore reports a flock of five at Bantam, Litchfield Co., Conn., on March 15, 1917; the only previous record for that locality was February 14, 1905. B. F. Case writes that fifteen or twenty Evening Grosbeaks appeared in Tolland, Conn., just before Christmas. Later the flock increased to above fifty, of which thirteen were adult males. They remained about a month.

Several flocks were observed at Englewood, N. J., where they were last seen April 11. At Hammonton, N J., Mary P. Conkey reports seeing from thirty to fifty Grosbeaks on March 11, and on April 22 they were still present. This appears to be the most southern record for the species.—Ed.

Interesting Winter Bird Records in Northern New Jersey

Several interesting bird records have been made in northern New Jersey during the past winter. Near Skillman, N. J., Mr. Henry G. Plump picked up a male Cardinal in the road on January 3, which was unable to fly. The occurrence of a Cardinal in that portion of the state is unusual. The bird was carried to Mr. Plump's home and seemed to recover somewhat, but died the following night.

On February 1, a boy found a male Baltimore Oriole at the corner of First and Clay Streets, Hackensack. This bird also was unable to fly. It was taken to Mr. Arthur Bratt, Deputy Warden of Hackensack, who endeavored to keep it alive until weather conditions would permit its liberation. Mr. Bratt kept the bird until February 11, when an unfortunate escape of gas from a coal-fire during the night caused its death. In the meantime it had seemed well and lively, feeding freely on bread, canary seed, oatmeal, boiled potatoes, lettuce, suet, and such scraps as were convenient.

This winter has marked an exceptionally conspicuous eastern flight of Evening Grosbeaks. These birds have been reported from Blairstown by Mrs. D. C. Carter; for several weeks prior to March 9, they having fed about her doorstep; from Morristown, by Mr. Eugene Vanderpool, having been observed about the same time as the prior record. On January 3 an Italian in Old Tappan shot five of these birds, and they were brought to the writer for identification by the State Fish and Game Warden for Bergen County, Mr. William H. Small, who effected an arrest after being murderously assaulted by the Italian, who was sentenced to 110 days for the offence. These birds were all in the female or immature plumage. Miss Mary Pierson Allen has had a flock of nine bright males and some thirteen females or immature-plumaged birds about her home in Hackettstown for some weeks. Using a dish of water as a lure, she succeeded in attracting them to the spot of ground where she was feeding Purple Finches, Juncos, Fox and Song Sparrows, and Chickadees with bread crumbs, scratch-food and sunflower seed. Here the Grosbeaks have been feeding daily on the sunflower seed, which they quickly learned to enjoy, and at this place the writer secured nine photographs. Some of the females or immature birds even became sufficiently tame to alight on Miss Allen's hand to feed.

Mrs. Wilson Senseman, of Atlantic City, has been entertaining a Mockingbird which appeared at her home there during the second week in November. This bird fed on the poke-berries and grapes which had been planted for the birds and accepted suet tied to the trees and currants and grapes which were

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thrown out for him. He took particular pleasure in concealing himself in thick foliage and, when English Sparrows gathered in a flock, emerging suddenly and chasing them all off the place. On February 26, Mrs. Senseman wrote that the bird was still with them and doing well.—B. S. BOWDISH, *Demarest, N. J.*

Yellow-Throated Warbler in Brooklyn, N. Y.

On April 28, 1917, while in Prospect Park, Brooklyn, N. Y., in charge of a group of fifteen members of the bird-study class of the Brooklyn Institute of Arts and Sciences, I heard, near the Rose-Garden, an unfamiliar song and found to my surprise that the songster was a fine male Yellow-throated Warbler. Never did an accidental visitor receive a more positive identification and live to tell the tale. Of the sixteen observers, fourteen had opera-glasses and the other two eight-power binoculars. All observed the bird for half an hour in fine light at a varying distance of from ten to twenty-five feet, and it was still in full view when they left. Many had manuals and, mark by mark, compared the printed description or the colored picture with the bird before them. The sharply defined yellow area on the throat and breast, the black streaks on the white flanks and sides, the white belly, the head-marks, the gray back and rump, and the white wing-bars were carefully noted. The song, which was repeatedly heard, was, as described, "like the Indigo Bunting's, but shorter." While there were several pine trees in the neighborhood, the bird spent all of the time it was under observation in the terminal branches of deciduous trees, alternately searching for food and singing.—EDWARD FLEISCHER, *Brooklyn, N. Y.*

Bird-Protection in the War-Countries

In this distressing time of war, when a large number of men from the farms is being drawn into the battlefields, there is coming a new realization of the economic value of wild birds and a larger effort to protect them.

The Royal Society of England has prepared a special leaflet, 'Birds, Insects, and Crops,' asking the help of all readers in the protection of the birds and of the crops in cultivation. Every bird is being regarded in the light of its value to man. Even the famed Skylark has been put under suspicion as a destroyer of crops of corn and wheat, but it has been proven by the examination of thousands of stomachs that it does not feed on wheat, corn or corn-shoots, but rather on weed seeds and insects, thus doing beneficial work.

In France the bird-protection party includes men from every station and class—statesmen, writers, sportsmen, teachers, and agriculturists—men who have the vision to see in bird-protection a means of saving agriculture from the threatening dangers. They are working to check the illegal shooting in the close season, the merciless destruction by gunners, the netting of migrants and killing of seabirds as a summer pastime off the coast of Brittany and Normandy.

The friends of birds are constantly increasing in Australia also. They are trying vigorously to stop collectors from killing off the very rare birds of the country. The Gould League of Bird-lovers, numbering 60,000 members, is just beginning to put up nesting-boxes, food-tables, and baths for the wild birds in the state schoolgrounds, parks, and public gardens. A military camp is located in a beautiful park in Victoria, and some of the men of the medical corps, in their leisure hours, enjoy watching the birds and feeding them from the hand.

Russia, too, is taking more active interest in the cause of bird-protection and is inquiring of England about bird-legislation. Some preserves have been set apart for the birds. The Department of Agriculture has founded one of great importance in Siberia, where, in 1895, the slaughter of birds was responsible for the plague of locusts and cutworms which threatened famine for the country. Moscow still has a famous bird-market. A

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commission has recently been formed which plans to circulate leaflets and pamphlets about bird-life and its value to the trees and crops, and to protect the natural life of the city parks.

America may well be proud of its progress in the work of conservation and its leadership of the world in methods of bird-protection.—ALICE W. WILCOX, *St. Johnsbury, Vt.*

THE SEASON

It is expected that a subdepartment with this title, under the editorship of Charles H. Rogers, will be hereafter a regular feature of BIRD-LORE. Its aim will be to give a general idea of the more unusual features of each season in different parts of the country, and it is hoped to accumulate a valuable fund of data on the fluctuation in the abundance of species. The contents of each instalment will be much like those of the introductory note to the Christmas Census, giving briefly the state of affairs in the world of birds during the previous two months—such as the lateness or earliness of the migration, the presence of irregular winter birds from the North, the scarcity of certain breeding species, the noteworthy abundance of some transient, etc. Statements of unusual events should be particular; general statements will suffice for conditions that are normal and to be expected.

We plan to have in each of several sections of the country a contributor, active in the field, who will send us between two and three hundred words every two months. He will supplement his observations by comparing notes with other members of the local bird club. Other active field-workers in the regions covered are urged to write summaries of their observations to these men; such contributions should be marked, 'For "The Season," BIRD-LORE,' *and will in no case be published*, but will be used at the discretion of the contributors in making out their reports.

The list of contributors follows:

Eastern Massachusetts: Dr. Winsor M. Tyler, 522 Massachusetts Avenue, Lexington, Mass.

New York City, within fifty miles of: Charles H. Rogers, American Museum of Natural History.

Southern New Jersey, southeastern Pennsylvania and Delaware: Julian K. Potter, 563 Bailey St., Camden, N. J.

District of Columbia, central Maryland and northeastern Virginia: Harry C. Oberholser, Biological Survey, Washington, D. C.

Central northern Ohio: Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.

Northwestern Missouri and northeastern Kansas: Albert E. Shirling, 3849 East 62nd St., Kansas City, Mo.

This first instalment of 'The Season' covers the first three months of 1917. The next will describe the period from April 1 to June 15. Thenceforth reports of observations covering the previous two months should reach our contributors as soon as possible after the 15th of February, April, June, August, October, and December, and they in turn are requested to post their manuscripts not later than the 20th of these months to Charles H. Rogers, American Museum of Natural History, West 77th St., New York City.

BOSTON REGION.—In this region the past winter was one of continuous cold with the ground snow-covered throughout January, February, and the first half of March. The winter was made remarkable by the presence of seven species of irregular winter visitors. Evening Grosbeaks were locally common throughout the season; Pine Grosbeaks were present in small companies until early in February; Redpolls were well scattered through the country districts during the winter and are still present (April 1); Pine Siskins appeared in the autumn in good numbers, but the majority passed on, apparently, before January; a flight of Brown-cap Chickadees (nine collected specimens proved to be the new race *Penthestes*

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hudsonicus nigricans) surpassed in numbers even the remarkable flight of 1913. (See Wright, 'The Auk,' 1914, pp. 236–42, and 'The Auk,' 1917, pp. 164–70, and Townsend, 'The Auk,' 1917, pp. 160–3.) During the autumn and the early part of the winter, Red Crossbills were fairly common and White-winged Crossbills occurred in small numbers. In spite of the presence of many northern birds, a marked scarcity of Brown Creepers was noted.

The beginning of the spring migration was delayed about ten days by inclement weather. The first arrivals were Song Sparrows and Bluebirds on March 21. Both soon became common. Red-winged Blackbirds, Grackles, Robins, Fox Sparrows, and Cowbirds came a few days later, also ten days late. I noted one Phœbe on March 27, a normal arrival date.

Hence, on April 1, in spite of the delay at the start, all the species due at this date have arrived, but as some species, notably Phœbe and Fox Sparrow, are represented by few individuals, the season must be regarded as still somewhat backward.—WINSOR M. TYLER.

NEW YORK CITY REGION.—This region received its full quota of the irregular visitors from the North whose abundance made this the most interesting winter ornithologically in at least the last two decades. The abundance was in species rather than in individuals, as only the Pine Siskin and the Redpoll were abundant. The Siskin was hardly more than an autumn transient, as few, if any, were seen after December; the Redpolls appeared as the Siskins left and stayed till mid-March. But few Evening Grosbeaks were observed about the city, though large flocks were reported near or beyond our fifty-mile radius. Remarkable numbers of Goshawks were seen and taken in northwestern New Jersey and, chiefly beyond our boundaries, in Connecticut and vicinity. Several Pine Grosbeaks and one Northern Shrike were recorded nearby. Unfortunately, our conifers raised a very poor crop of cones last year, and the half-dozen or so Red Crossbills noted hurried through early in the season. The White-winged Crossbills fed on sweet gum seeds and tarried with us; three males spent several weeks on Staten Island, leaving in March, and there were other records. Five winter stations for the Brown-cap Chickadee (*Penthestes hudsonicus nigricans*) were found: one (one bird) at Englewood, N. J.; three (four birds) in the Watchung Mountains, N. J.; and one (four birds), the southernmost record for the species, on Staten Island; none was seen after the first week in February. Black-cap Chickadees were extraordinarily common, but most of them left during the latter half of March.

There is little to be said of the spring migration, which, on the whole, has progressed so far about normally. There have been rather unusual numbers of the commoner River Ducks and a notable abundance of Holbœll's and Horned Grebes. One party, on March 25, counted nearly 150 Grebes along five or six miles of Long Beach, L. I.; of these over one-third were of the larger species. Rusty Blackbirds have been, perhaps, more than ordinarily common.—CHARLES H. ROGERS.

PHILADELPHIA REGION.—During January the common winter residents were present in their usual numbers. The Carolina Wren, however, was almost entirely absent at different stations in New Jersey; in Pennsylvania it was apparently as numerous as ever.

January proved to be a month of great interest to local bird students because of the abundance of boreal birds which had made their appearance early in the winter. These were Pine Siskins, Horned Larks, Redpolls, Red and White-winged Crossbills and, most notable of all, Evening Grosbeaks, a species never before recorded so far south. Most reports have come from the pine-barrens region of southern New Jersey. Mr. Samuel Scoville, Jr., discovered a flock of seventy-four at New Lisbon, N. J., on January 29. Smaller flocks have been noted at different points, some very near Philadelphia.

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A Great Blue Heron was noted January 6 and an adult Black-crowned Night Heron on February 11.

About February 20 the first spring migrants begin to arrive. Favorable weather may bring a few earlier; on the other hand, stormy and cold weather may delay the flight till well into March. Personal observations on these birds this year are as follows: Bluebird and Robin, March 4; Purple Grackle and Fox Sparrow, March 8; Killdeer and Red-winged Blackbird, March 11; Rusty Blackbird, March 18; Mourning Dove, March 21; Kingfisher and Turkey Vulture, March 22; Flicker and Phœbe, March 31. These are all rather late dates and are no doubt due to some extent to the weather conditions of late February and early March, yet records of a large number of observers will probably show that small numbers of most of these birds were in this vicinity anywhere from two to three weeks earlier than the dates given.

March closed with Evening Grosbeaks still present.—JULIAN K. POTTER.

WASHINGTON REGION.—During the winter of 1916–17 birds as a whole were rather unusually abundant. Furthermore, the exceptionally cold weather brought a number of interesting winter birds to Washington. Perhaps the most remarkable of these was the White-winged Crossbill, of which there were only four previous records. It appeared on December 10, 1916, and remained irregularly rather common until the latter part of February, 1917. The Red Crossbill was also present during the same period. The Pine Siskin was unusually common during the winter, appearing October 22, which is earlier than any previous autumn record. Among the unexpected winter occurrences might be mentioned a Ruby-crowned Kinglet, seen on January 20 by Mr. L. D. Miner, and a Blue-gray Gnatcatcher, observed on January 2 by Miss M. T. Cooke. The Whistling Swan and Ducks of a variety of species wintered in considerable numbers on the Potomac River. Altogether, the winter, from an ornithological standpoint, proved to be one of the most interesting for many years.

The continuously cold weather during March had a rather interesting effect on the bird-life of this locality. It apparently delayed the spring arrival of only a few migrants, for many of them appeared about on time. On the other hand, several came very early. Those late in appearing were the Killdeer, first noted March 11, for which the average date of spring arrival is March 6; the Woodcock, noted March 11, average date of spring appearance, March 2; Cowbird, observed March 31, usual date of spring arrival, about March 20. Of the species that arrived ahead of their schedule might be mentioned the Phœbe, which was seen March 5, but which usually comes about March 10; the Purple Martin, which came March 25, six days ahead of its average; and the Brown Thrasher, which was seen March 31, three days ahead of its average. Two species arrived earlier than the earliest previously recorded date: the Louisiana Water-Thrush, seen March 17, for which the previous earliest record was April 1; and Henslow's Sparrow, seen on March 25, for which the previous earliest date was April 10, 1889.—HARRY C. OBERHOLSER.

OBERLIN REGION.—The winter was unusually severe in that there were longer periods of continuous cold during January and February than are expected. As a result no birds began to sing until the first wave of migration. Only the usual winter birds were present in the immediate vicinity of Oberlin, but there were reports of the presence of Bohemian Waxwings, White-winged Crossbills, Pine Grosbeaks, and Goshawks from regions east of Cleveland. A single Cowbird was found with a flock of House Sparrows on January 29.

The migrations began on February 19, when there was a marked increase in the number of Crows, which is nine days early for the average of this species. The Bluebird arrived on February 23, Fox Sparrow on the 24th, Canada Goose and Bronzed Grackle on the 25th, Robin, Killdeer

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Meadowlark, Song Sparrow, and Towhee on the 26th. This completed the first real wave of migration. The usual first wave is composed of the Crow, Robin, Killdeer, and Bluebird, and the second wave of Canada Goose, Meadowlark, Bronzed Grackle, Song Sparrow, Northern Flicker, and Red-winged Blackbird. This time the Northern Flicker did not arrive until March 21—two weeks late—while the Towhee was nineteen days early.

The second wave of migration comprised the Black Duck, Baldpate, Red-winged Blackbird, Pintail, and Merganser, all on March 1, and Redhead and Canvasback on the 3rd. Cowbird on the 10th, Greater Scaup on the 11th, and Mourning Dove and Hooded Merganser on the 16th, make up the usual scattering records for the middle of this month. Cold weather interfered with any real movement.

The third wave began on the 20th with the arrival of the Chipping Sparrow; Norther Flicker and Field Sparrow came on the 21st, Phœbe on the 22d, Vesper Sparrow and Coot on the 24th, Red-breasted Merganser, Belted Kingfisher, Turkey Vulture, Shoveler, Lesser Scaup, Hermit Thrush, and Pied-billed Grebe on the 25th, and Rusty Blackbird on the 26th, closing the migrations for the month, with Wilson's Snipe and Swamp Sparrow late, and Hermit Thrush and Pied-billed Grebe early.

A study of the records given above, in comparison with the averages for all of the records for the vicinity of Oberlin, reveals a great irregularity for this season's movement, with only Belted Kingfisher, Phœbe, and Vesper Sparrow even approximating their average dates of arrival for twenty-one years. This is exceptional.—Lynds Jones.

Kansas City Region.—A dry winter with no ground-cover of snow or sleet furnished favorable conditions for seed-eating birds. This may account for the unusual thousands of Thick-billed Red-winged Blackbirds (*Agelaius phœniceus fortis*) that spent the winter in the vicinity. Smaller droves of these northern birds occurred last year, but the numbers were quadrupled this winter. These Red-wings began to leave about the first of March, and those taken after March 5 were our nesting subspecies, *predatorius*.

A census of birds taken at various times during the winter showed the usual number of winter residents with, perhaps, an increase in the number of Cardinals and somewhat fewer Blue Jays. Winter Wrens also seemed more common than usual. Kinglets, Robins, and Bluebirds were occasionally seen throughout the winter.

A colony of twenty Short-eared Owls frequented a rodent-infested weedy tract. Several Goshawks were seen in different sections. They are not often reported for this region. Several Gambel's Sparrows were taken in February and early March, thus establishing a new record for the eastern range of this western bird.

Messrs. Harry Harris and Ralph Hoffmann took a Bohemian Waxwing in January. They also report the Northern Shrike for January and three Mockingbirds in different sections of the city throughout the winter.

By the last week of February there was a general return of Fox Sparrows, Harris's Sparrows, and Song Sparrows. Two Leconte's Sparrows were found February 25. Robins, Bluebirds, and Meadowlarks were generally distributed at this time. Lapland Longspurs, Pine Siskins, and Horned Larks were also found February 25.

The effect of the migratory game law is quite noticeable. The lakes used as resorts for the Kansas City hunting clubs are teeming with water-fowl. Mr. Ralph Hoffmann, returning from a recent trip to these lakes, reports thousands of Coots, hundreds each of Shovelers, Blue-winged Teal, Baldpates, Gadwall, and White-fronted Geese; dozens of individuals of each of half a dozen other species of Ducks and Geese, and many shorebirds.

At the last of March, the Tree Sparrows, Fox Sparrows, White-throated and White-crowned Sparrows, Harris's Sparrows, Juncos, and Siskins are still common.—Albert E. Shirling.

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Book News and Reviews

THE BIRD STUDY BOOK. By T. GILBERT PEARSON, Secretary, National Association of Audubon Societies. Doubleday, Page & Co., Garden City, N. Y. 1917. 12mo. xvi+258 pages; colored frontispiece; 16 photographs; numerous text cuts.

Few writers of popular bird-books have had Mr. Pearson's opportunities to learn definitely the kind of audience to which their work was addressed. As a teacher, as a representative of the National Audubon Society, and for the past seven years its chief executive, he has come into personal touch with many thousands of persons who from varying angles were interested in birds.

In his 'Bird Study Book' he has therefore supplied suggestions and information which he actually knew were desired. The result is a practical introduction to the study of birds, telling why and how we should learn to know them and, particularly, why we should protect them. On this latter phase of his subject Mr. Pearson speaks with exceptional authority. Nowhere else will one find so satisfactory an exposition of the work for bird-protection which has been done in this country and of the varied activities of bird-conservers.

We regret to observe that the publishers have denied the book the index its contents so well deserve.—F. M. C.

THE BIRD POEMS OF MILES A. DAVIS. Published by John White Johnson, Rochester, N. Y. 12mo. 37 pages.

As Mr. T. Gilbert Pearson truly says in his introduction to this little volume, "Nothing seems more natural and proper as a subject for poetic meditation than birds." One does not have to be an ornithologist to realize the poetry of bird-life, and for that reason poems with birds as themes may appeal as strongly to those to whom birds are merely symbols as to those who know them.

Mr. Davis sings chiefly of our commoner birds, the Robin, Bluebird, Baltimore Oriole, Bobolink, and others, and his verses reveal an ardent sympathy with bird-life and a poet's appreciation of the charm and beauty of birds.—F. M. C.

NINTH ANNUAL REPORT OF THE STATE ORNITHOLOGIST [of Massachusetts]. By EDWARD HOWE FORBUSH. For the year 1916. From the Sixty-fourth Annual Report of the State Board of Agriculture. 1917. 26 pages, 6 plates.

Like all its predecessors, this report is filled with matter of interest and value to the bird student and the agriculturist. It deals with publications, lectures, legislation, bird-day and bird-night exercises, bird-study in the schools, bird-boxes, control of cats, and the status of certain birds. Evidently the ornithologist of the state of Massachusetts does not lack for occupation.—F. M. C.

HARDENBERGH'S BIRD PLAYMATES. Published by Charles Scribner's Sons, New York City.

The idea embodied in 'Hardenbergh's Bird Playmates' seems to us so excellent we cannot but regret that it has been so poorly executed. Four pieces of cardboard, averaging about 18 by 18 inches, contain approximately 140 figures of birds. These figures, which are nearly 'cut out,' are to be detached and placed at a number corresponding to the one they bear in one of two landscape cards which measure 20 by 30 inches. One depicts a shore, the other a wood scene. The place allotted to each species on these cards is designed to represent its haunts. The child, therefore, not only learns to know the bird but also gains some information of the kind of country it inhabits. The game makes an appeal similar to that which prompts to construct maps and pictures with blocks and the like. It seems well designed to instruct as well as amuse, but, unfortunately, many of the birds are badly drawn and crudely colored, with staring yellow, red or brown eyes (not one has the iris black). After making all

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allowances for perspective, the scale employed varies so that, for example, the Cowbird is larger than the Osprey, the Herring Gull smaller than the Woodcock.

It would have cost no more to reproduce a correct original than a poor one, and we cannot, therefore, find an excuse for the unworthy form given to this admirable conception.—F. M. C.

The Ornithological Magazines

THE CONDOR.—The new volume for 1917 opens with a rather startling theory that the White-throated Swift may possibly hibernate to a certain extent. In 'Further Notes on the White-throated Swifts of Slover Mountain,' near Colton, Calif., Wilson C. Hanna states that "these birds are residents here throughout the year. Many days often pass by during the fall and winter when no Swifts are seen, and then at some unexpected time they appear in large numbers." In January, 1913, during a cold wave, eight perfectly healthy Swifts were removed from a crevice where, with many others, they seemed to be roosting in a dazed or numb state. After being kept in a room for six hours they were released, and all flew away in a dazed fashion. "I had hitherto thought that they were numb from the cold . . . but it has been suggested to me that possibly they were hibernating." The paper contains some important notes on the nesting of this species, with measurements of six sets of eggs, but, unfortunately, omits the dates when the eggs were collected.

In 'Birds of the Humid Coast,' Mrs. Bailey gives a graphic picture of the habits of some of the species, particularly the Gulls, Cormorants, and Sooty Grouse found in the vicinity of Tillamook Bay, Ore. F. S. Hanford contributes an article on 'The Townsend Solitaire' with notes on five nests found in the Sierras at altitudes varying from 3,700 to 7,500 feet. As a result of observations made in 1915 and 1916, George Willett, in 'Further Notes on the Birds of Forrester Island, Alaska,' adds twenty-two species to the list of birds known from this Bird Reservation.

Dr. Joseph Grinnell has made a critical revision of 'The Subspecies of *Hesperiphona vespertina*,' and now recognizes four forms of the Evening Grosbeak. The typical subspecies remains unchanged, but the name *montana* is transferred to the Mexican form and that from the Rocky Mountain region is renamed *H. v. warreni*, and two subspecies are described as new, *H. v. brooksi* from British Columbia, and *H. v. californica*, from Crane Flat, Mariposa County, Calif. The size of the bill constitutes the principal difference, but not a single measurement is given, and future students must depend on these outlines of bills and brief statements of the relative 'degrees of thickness' of the bill to distinguish the several subspecies. —T. S. P.

Book News

The May issue of the 'Nature Study Review' is a bird number with articles by Elsa Guerdrum Allen on Wild Ducks with a Color Key to the Ducks of the Eastern United States; Louis Agassiz Fuertes, on Hummingbirds; Gilbert H. Trafton on The Thrush Family; Laura A. L. Turner on Tree Swallows; C. W. Leister on The Chestnut-sided Warbler; Guy A. Bailey on Bird Protection; and half-a-dozen other authors supply minor contributions. The Editor gives an outline for bird-study which has stood the test of years and writes sympathetically of John Burroughs. There are a number of excellent illustrations, notably those of wild Ducks by Dr. Arthur A. Allen, and the prose content of the magazine is good, readable, popular ornithology.

We cannot speak so highly for the verses. Poetic license may sanction certain liberties with words but not with facts, and poetry which sends the Bluebird to "Orient isles," and makes the House Wren sing with "tail up" does not ring true. A verse, apparently addressed to the Red-winged Blackbird, is headed "Phœbe Bird," but perhaps this is a slip for which the author is not responsible.

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Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE making of gardens, large and small, now occupies the mind and spare time of so many country dwellers that we have thought it well to devote this number of BIRD-LORE largely to a type of gardening which our new-born enthusiasm for potatoes and other vegetables should not cause us to overlook.

We must not forget that if we make potatoes and squash grow where only grass grew before, we are not only adding to the food-supply of the nation but also to that of potato-beetles and squash-bugs.

We should, therefore, make an alliance with the enemies of beetle and bug for war on the common foe. If, with that misguided instinct for 'cleaning-up,' which leads a farmer to leave no vestige of hedgerow or undergrowth about his land, our fields offer neither cover nor nesting-site to our proposed allies, we cannot expect them to camp with us.

It is now too late to repair the damage due to lack of foresight, and to a greater or less extent we must pay the penalty of unpreparedness. But at the worst we can still make our farms and gardens more habitable and attractive to the natural protectors of our crops by supplying them with drinking- and bathing-pools near which may be placed piles of brush for shelter and, possibly, also nesting-places, and by controlling the activities of marauding cats. It would not, indeed, be more than fair if the terms of our alliance should include an agreement whereby we would promise to reduce the vagrant cat population in return for a proportionate reduction by the birds, in the ranks of insects injurious to vegetation.

A more fundamental and even more important type of bird-gardening has been pursued during the past season by the National Association of Audubon Societies in forming Junior Societies. Through the widely ramifying system it has established and the coöperation of bird-lovers throughout the country, it has sowed the seeds of a knowledge of the beauty and value of birds in the minds of nearly 250,000 children.

Who can estimate the value of the crop which time will here develop? If in some cases the seed fails to germinate or produce a healthy plant, in others there will grow the hardy perennial to last as long as the life that bears it.

The function of education, says Herbert Spencer, is "to prepare us for complete living," and any form of instruction which adds to our fund of information and shows the way to exhaustless stores of knowledge and of ennobling sources of pleasure may surely be called education of the highest order.

The National Association has much to its credit but to our mind no work it has ever done equals in importance this yearly placing of the feet of nearly a quarter of a million children on the first steps to bird-study and showing them the open gate through which lies a lasting association with the most attractive of Nature's animate forms.

OUR thanks are due the gentlemen who have consented to coöperate with us in conducting our new subdepartment 'The Season.' We hope in time to add to their number, when, if the ever-soaring prices of everything connected with the making of a magazine do not prohibit the use of the necessary space, we trust that this department will present a bi-monthly view of the more characteristic phases of bird-life throughout the country.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

THE NEED OF THE NATIONS

WAYS IN WHICH AUDUBON SOCIETIES CAN HELP

Every available resource is needed to-day in the world-wide struggle for lasting peace. It is no time for prejudice or indifference to retard necessary action. It is no time for extravagance or waste, both of which are speedily coming to be recognized as criminal abuse of resources. *It is* a time for calm, clear thinking, few words, and definite, effective action.

In spite of the gloom overshadowing not only foreign countries but also our own, the light of the greatest and grandest opportunity for the betterment of society and the uplift of civilization is breaking. Hope in the future and faith in the highest ideals beckon us on with stout hearts toward a glorious goal.

The resources of the Audubon Society are greater than we may think in this critical emergency. First of all, we now have a far-reaching organization, representative of nearly every part of our country, an organization which, unlike many others, reaches young and old alike. An appeal made through the State, National and Junior Audubon Societies will reach thousands of people. Second, we have behind us a greater moral and financial support than at any other time. If we outline practical and definite lines of work, we shall undoubtedly find ways and means to carry them on. Third, we are in a position to take up needed work at many separate points, with almost no further preliminary steps of investigation. In other words, we are already organized, supported, and equipped to do necessary work for the nations of the world quickly and efficiently. These are important resources, for without good-will, intelligence and method very little can be done.

Without waste of words, the following suggestions are timely for each State Audubon Society and each Junior Audubon Society to consider:

1. INCREASE OF FOOD-SUPPLY.

(*a*) Raise Chickens, Turkeys, and domesticated Ducks and Geese where conditions are favorable. Junior members can assist greatly in such undertakings.

(*b*) Study carefully the problem of stocking reservations with Quail, Grouse, and Pheasants, and also, the matter of establishing Pigeon-cotes. The question of food for these species is perhaps the most necessary one in determining what can be successfully accomplished. In this connection strive to interest sportsmen's leagues, game commissions and legislators.

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(*c*) Instruct and assist wherever possible in the propagation and care of pigs and Belgian hares, for these two animals are easily kept and are profitable.

2. Conservation of Food-Supply.

(*a*) Increase all efforts to protect beneficial birds. Reach every school, every library, every farmer and every newspaper in your state with concise, truthful statements of the relation of birds to agriculture, forestry, and health.

(*b*) Select as pets birds and animals which will aid in increasing our food-supply. Remember that caged song-birds, cats, rabbits and other pets require a great deal of food. Ask yourself how many pets of this kind you are justified in keeping when thousands of children and grown people, as well as necessary animals, like cattle, pigs, sheep, horses and mules, are starving.

(*c*) Turn your attention and energies, in the household of which you are a member, to *an economical disposal of garbage*. You can render an inestimable benefit to the Audubon Society by setting an example of thrift, broad-mindedness and coöperation. It goes without saying that everything conserved to the best end serves many purposes. Birds are natural scavengers, certain species belonging almost exclusively to that rank. From them we humans should learn the lesson that *Nature never wastes anything*. Millions of dollars are annually thrown away in our garbage-pails. You are not a good nature-lover nor a thorough nature-student if you carelessly waste refuse matter which can be converted to further use.

Much so-called garbage properly sorted and prepared, furnishes good food for pigs and poultry. There are other uses of this despised resource which should be studied in detail, and each citizen should be enlightened as to his civic duty in coöperating with his neighbors and town or city officials in conserving all food and other values from this source.

(*d*) Learn not to waste at table. I have seen poor waifs in one of our own large cities visiting garbage-pails in the wealthier districts, for bits of cast-out food. Better by far would it be if we avoided over-large helpings at table, and saved remnants in a usable condition. The food-supply of the nation would go more nearly around to the poor as well as the rich if everyone was thoughtful about wasting at table. Incidentally, we should be more healthful.

Birds are the largest eaters, relatively, of all living creatures, man not excepted. At this season of nesting observe for yourself how birds use their food-supply. Things they do not like they leave alone after one or two trials. Things they like they usually eat entirely. Only a few birds secure prey- or food material as pastime. Although birds are enormous eaters, they have a restricted diet, varied only sufficiently to meet the requirements of their activities and the vicissitudes of their annual food-supply. You can learn something from the food habits of birds about increasing and conserving the food-supply of the world.

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3. Prizes as a Stimulus to Competition.

Prizes are being quite generally offered in connection with the emergency gardens which now occupy the attention of every community. In Rhode Island the School Garden Committee awards a banner for the best school garden in the state. In the city of Providence the Retail Merchants Association will distribute this year about fifteen hundred dollars in various prizes for results achieved in gardening.

The School Department of Bird-Lore has as yet done little in the way of encouraging competition in bird-work by means of prizes. It may, however, as space permits, print the names of those Junior Audubon Society members who win prizes in bird-house contests or other contests connected with the study and protection of birds. State Audubon Societies would do well to offer, from time to time, some prize or special token of approbation or encouragement in their respective states to members, particularly Junior members, who accomplish results in any line of bird-work worthy of such commendation.

4. Planting Food-Supplies for Birds.

In connection with gardens, plant shrubs, herbs, etc., suitable for the natural food-supply of beneficial birds.

See Hodge: 'Nature-Study and Life,' p. 323; 'Food Chart of Our Common Birds.'

Baynes: 'Wild Bird Guests,' pp. 173–91.

Forbush: 'Useful Birds and Their Protection,' pp. 372–422; 'Game Birds, Wildfowl and Shore Birds,' pp. 563–88; 'Food Plants to Attract Birds and Protect Fruit,' Circular No. 49, Massachusetts State Board of Agriculture.

McAtee: 'Three Important Wild Duck Foods,' Circular No. 81, Bureau of Biological Survey, U. S. Dept. of Agr.

Job: 'Propagation of Wild Birds.'

Ladd: 'How to Attract Wild Birds About the Home,' Bird Protective Society, Greenwich, Conn.

First Report of the Brush Hill Bird Club, Milton, Mass. 1914. Pp. 19–32.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXIII: Correlated with Music, Gardening, and Reading

Bird-Music. Part II

It is an inspiring thought that since the beginning of Junior Audubon Societies, six years ago, 584,254 children have been organized as members in a total of 29,052 Junior Audubon Clubs. To-day we need every one of these boys and girls to be alert, ready, and earnest to do his or her part for the welfare of the world. The duty that comes may be a welcome task or a dreaded one. It may call for real work and little play. It may interfere with vacation plans upon which some have set their hearts.

Let me tell you a secret which will help you over every hard place. The duty done *with a song in the heart* is not a duty at all but a joy. When the

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great Belgian violinist Ysaye was playing in recital this winter on this side of the water, he appeared before an audience one afternoon in an apparently dejected condition. At the opening of the concert he sat in a chair and, to all appearance, his mind was far away from his fingers. But as he played on, he was borne up and out of himself by the power of his great love of music. He seemed almost to surpass himself in beauty of tone and height of interpretation.

That day he is said to have received word of the loss of a son in battle. It was his duty to appear before a public unaware of his sorrow. The love of music was at once his comfort and source of triumph. He was reported at the time as saying that music heals otherwise incurable breaches and creates ties never to be broken. I tell you this because the example of a great musician like Ysaye is one we may all well follow.

If we are not naturally musical, let us cultivate music and at least learn to appreciate it. With the mating, nesting birds all around us, we continually hear the most spontaneous, unstudied bursts of melody, choruses of rare quality, notes expressive of pure joy, and all of this daily demonstration is the accompaniment of duty and toil. Just think a moment what a change would come to us all if the birds went silently about nesting, if there were no morning matins, no songs at sunset, no cheery call-notes, no sweet responses.

Will you try to notice some of the following things in connection with bird-music this summer?

1. Where and when different species of birds sing?

Where a bird sings means two things really: first, in what locality it is while singing, woodland, thicket, meadow, field, marsh, seashore or along the roadside; and second, whether it sings on the ground, on a perch, on the wing, in trees, about bushes where it feeds or where it nests or both.

When a bird sings is a suggestive question, also, for there are birds singing only at dusk, others only by day, others at dawn and sunset with occasional bursts of song through the day. Some birds sing while feeding, others feed silently, except for an occasional call, and still other birds seem to follow no particular rule.

2. How a bird sings is another question which takes much observation to answer. One way of answering it is to study the mechanism of the throat and learn the parts of that mysterious little song-box called the *syrinx*. You will recall, perhaps, that what enables a bird to sing is the action of muscles largely, in connection with membranes about and within the lower end of the trachea and the opening of the bronchial tubes.

We may remember that, in general, the finer and more complicated the song, the larger are the number of song-producing muscles and the more intricate the song-mechanism is as a whole. Another way to answer this question of how a bird sings, is to learn the number of songs it sings, and the quality of its voice, whether loud and raucous, monotonous, soft and sweet, full and flowing or disconnected, clear or lisping, full of energy or weak.

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3. Why a bird sings? Perhaps you have not thought much about whether birds have emotions and sing when well and happy or keep silent when ailing and uncomfortable; whether they sing when frightened or when hungry. There is a great deal to be learned before this question can be completely answered. Let me call your attention again to the four birds we are to observe particularly this year. Take the Crow as an illustration of the expression of various kinds of emotions. Although the Crow is not much of a songster, it nevertheless has a surprising variation of emphasis, intonation and time-intervals in its familiar "caw." Should one follow a Crow from day to day and listen to its lusty note in spring, its vociferous councils with its mates, its occasional attempts at imitative speech, its notes of alarm and the lugubrious calls of its nestlings, one might well believe that even a single note can express many states of emotion. In the case of the Downy Woodpecker, which is not a singing bird at all, study reveals its brief staccato call as well as its longer, more resonant roll, to be susceptible of minor changes to which the trained ear is attuned. The quality of the notes of the Robin and English Sparrow are about as different as one could imagine with respect to two species that are found so frequently associated on our lawns. Mr. Burroughs says the Robin's notes are so expressive as to be suggestive of human emotions. (Again, let me call your attention to the Robin as a bird well worth studying every day that it spends in our latitude.)

The English Sparrow's notes, on the contrary, seem almost always harsh and unmusical, except at the mating season, when occasionally a brief ripple of something like a twittering song may be heard from one. Mr. Burroughs calls attention to the possibility that thousands of years of contact with man and familiarity with artificial sounds may have affected the voices of certain more or less domesticated birds. He points out "how different the voice of the common Duck or Goose" is "from that of the wild species, or of the tame Dove from that of the Turtle of the fields and groves," and queries where the English Sparrow could "have acquired that unmusical voice but amid the sounds of hoofs and wheels, and the discords of the street." Birds are rather easily imitative, we know—certain species more than others. This one fact opens up a surprising possibility of interesting discoveries in bird-music.

Read Mr. Burrough's essay on 'Birds and Birds' as a hint of what is in store for the lover of bird-music, and if this summer duty keeps you at work in field or garden, have eyes and ears open as well as hands busy. You may easily learn to identify many weeds and humble herbs frequented by birds and insects, and add much to your store of knowledge while you are working with hoe, rake or shovel. Wherever you are, be glad of the opportunity to work outdoors or to be outdoors where there is so much to see and hear, even to taste and smell and handle. "Whenever you have learned to discriminate the birds, or the plants, or the geological features of a country, it is as if new and keener eyes were added." ('Sharp Eyes,' John Burroughs.)—A. H. W.

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FOR AND FROM ADULT AND YOUNG OBSERVERS

THE BLACK-CROWNED NIGHT HERON

(Nycticorax nycticorax nævius)

By WILLIAM GOULD VINAL, The Rhode Island Normal School

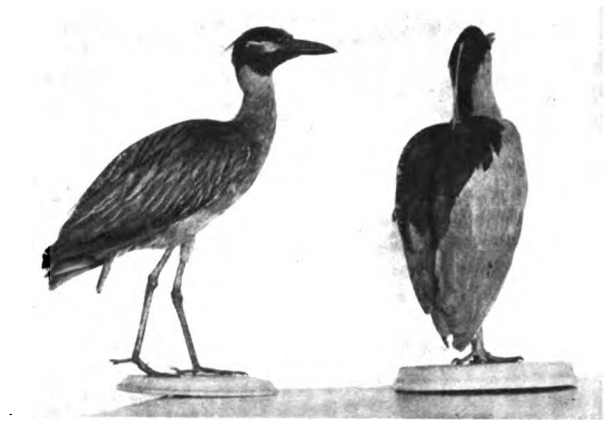
A METHOD OF STUDY

I. SUBJECT MATTER.

The Black-crowned Night Heron is known more commonly when called by one of its nicknames: Squawk, Quawk, or Qua Bird. In some of the southern states it is known as Gros-bec, Indian Hen, or Indian Pullet. The bird receives the first of these appellations from its call as it flies to and from its hunting-ground late in the afternoon or at night. Longfellow gives the proper setting, in 'Evangeline,' when he says,

"Deathlike the silence seemed, and unbroken, save by the herons
Home to their roosts in the cedar trees returning at sunset."

The Black-crowned is the most abundant and familiar of the Heron family. A large colony of these birds has a breeding-ground on Cape Cod, not far from Camp



YELLOW-CROWNED AND BLACK-CROWNED NIGHT HERONS
From Specimens in the Arnold Biological Laboratory, Brown University

Chequesset, a girls' camp, where the writer had frequent opportunity to visit the heronry and to experiment upon the birds with the camera. This particular colony is in a pitch-pine grove which is located near a marsh.

If one enters the rookery in daytime—which is usually bedtime for this species—he finds things rather quiet until discovered. The invader is then serenaded with a great din. The parents fly into the air, squawking and cackling promiscuously. Blanchan likens it to pandemonium, and Wilson compares the noise with that of two or three hundred Indians "choking or throttling" each other. Such is the heralding as one enters the *sanctum sanctorum* of herondom.

The housekeeping is no more inviting than the notes of greeting. The ground and trees are white with excrement, and a foul odor comes from decomposing pieces

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of fish which have fallen to the ground. Here and there are the remains of a young bird who did not meet the laws of arboreal life successfully. Should a visitor climb toward the nests, the young birds still further show their unsociability by disgorging their last meal. The Herons also have good allies in the mosquitos, whose method of attack might repel any human foe who attempted to harm the landlords of the settlement.

The nests of these Herons were ragged platforms of dead sticks built in the forks of trees about 10 to 20 feet from the ground. The birds, it should be noted, usually repair the old nests, which do not show the high degree of craftsmanship exhibited by other birds, while cleanliness is an unknown factor. In this latitude, the Black-crowned Night Heron returns about the second week of May, and as it is found breeding often into June, one may find the young in all stages of development during the midsummer months.

NEST AND YOUNG OF THE BLACK-CROWNED NIGHT HERON IN A PITCH-PINE TREE

The baby Herons wear a coat of gray down and have a prominent head-crest. The one in the picture appeared to be dead, and I had to poke him several times before I learned that he was 'playing 'possum.' He would not hold up his chin, so appears as a fluffy ball in his photograph.

In less than a month these babies become nearly as large as their parents. This rapid growth is due to their enormous appetites. The old birds not only work nights but have to leave the homestead in the afternoon to keep the young well fed. They bring in fish, eels, and frogs and can ill afford to have 'fisherman's luck.' The food is softened and partially digested in the alimentary canal of the adult before it is served to the young. To have a family of three or four average 1.5 feet in height in their bare feet, in four weeks, is an undertaking that keeps both father and mother Heron working full time.

The young Heron has a dress more like the Bittern's than that of its parents. In this early period the color of the young blends well with the trees, making it more difficult to discover them. Sitting, day in and day out, like sentinels, except with a more expectant look, they await the return of the parents with food.

When I climbed a tree to take a picture of one of the young Herons, it began to climb away, and went rapidly to the end of a neighboring branch. If it lost its balance it regained it by using its bill. One unfortunate youngster fell to the ground and was allowed to pose on a limb. If disturbed on the perch the bird erected its crest, opened its cavernous beak, and spread its wings, presenting a terrifying appearance sufficient to drive away anyone having designs on its tender and plump makeup.

It was interesting to watch the adult birds feeding on the marshes and along the creek in front of the camp. They wade ankle-deep (usually thought of as knee-deep), often standing still. When food is spied, the arched neck allows the bird to strike with great force. To a small fish the Heron's leg must resemble a stick, and the light ventral

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color must render its body imperceptible when looked at against the sky from below. The Heron's juvenile plumage enables the owner to escape becoming food for enemies, while the color of the adult is an aid in securing food.

The Black-crowned Night Heron is very widely distributed. It breeds from New Brunswick to Patagonia.* In this region it begins to migrate about the middle of October. Audubon says that the adults go farther south than the young.

II. METHOD OF TEACHING.

If there are Herons in the neighborhood, it is best to encourage pupils to observe these birds out-of-doors. Begin the work with an interesting description and ask a few questions to arouse the pupils' interest. If there is a rookery that can be visited it might be desirable to have a few pupils make a study of it. Observations of the adult feeding is an excellent training which is worth while for all the class. Pupils might have individual notebooks in which they could write answers to certain questions. These questions should be written on the blackboard when it is time to make the observations and the class be given at least a week for observation work.

A. Observations.

(a) Questions for Observation at the Rookery.

1. Try to enter the heronry without being discovered. If you are discovered: How did the bird discover you? How do you know that you were discovered?

2. What does the bird say? If you have heard the same call before, when did you hear it? Where did you hear it?

*'Distribution and Migration of North American Herons and Their Allies', Wells W. Cooke. 1913. Biological Survey, Bulletin No. 45.

A BLACK-CROWNED NIGHT HERON IN ITS HAUNTS
Photograph of a mounted specimen.

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3. Where does the Heron carry its long legs when flying? How do they help it at this time?

4. What is the color of the underside of the Heron?

5. When the birds come back to the trees note the color of the legs, the eyes, the top of the head, the back.

6. Where are the nests placed? Of what material are they made? Where is the material obtained? How do you suppose it is obtained? Compare the nest with some familiar nest.

7. Do the young birds make any noise? What do the parents feed the young? How can you tell this?

8. What is the difference in color between the old bird and the young one?

9. Describe a baby bird.

(*b*) *Questions for Observation at the Marsh.*

1. Does the bird ever stand motionless? (Audubon says that this one never does.) Advantage of the habit?

2. Does this Heron prefer to walk or wade? If it wades, how deep does it go in the water? How is it adapted for its method of locomotion?

3. In what position does it hold the head? What is the advantage of this?

4. What does the bird do when it sees prey? Why does it do this?

5. In what position does it hold its head when flying? Why?

6. Describe its colors. Why would it be difficult for a fish to discover it?

7. Where does it place the legs when flying? How does this position help it? How would it be hindered if it did not do this?

8. What does the bird do when it hears a noise. (Note that birds differ in their response to a noise. The Bittern, for example, rather squats than flies.)

9. Try to discover what the bird eats.

(*c*) *Questions for Observation in the Laboratory.* (Preferably use a stuffed specimen, otherwise a picture.)

1. Describe the beak. What is the character of the edges of the bill? Advantage?

2. Compare the length of the tail with that of other birds. Disadvantage? How is it overcome?

3. What is characteristic of the legs? Why should they be so? Compare the growth of feathers on the legs with the growth of feathers on the legs of the Owl. Explain the difference.

4 Describe the wings. What does that tell you?

5. What is unusual about the toes? How does this help the bird?

6. What duck-like characteristic is found on the foot? How can this be of service?

7. Compare the length of the neck with that of the legs. Why should there be this relation?

8. What is the position of the neck? When would this poise be helpful?

9. What part of the eye is red? Look at the pupil of several birds. What color is the pupil in every case? How does the iris of the immature Night Heron differ from that of the adult?

Each pupil has now had opportunity to make careful observations, and each one has had the benefits of the training.

B. Organization.

Closely following the observation period should come the stage of organization. The teacher meets the class as a group. Questions about the observations made are asked and the results grouped somewhat as follows, the teacher writing down the facts on the blackboard as they are obtained from the pupils:

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THE BLACK-CROWNED NIGHT HERON

Home: Marshes and Creeks. *Food:* Frogs, eels, worms, fish, mice.

Color	Black head	hence name.
	Light below	not easily seen by animals it seeks.
	Dark above	not so easily seen from above.
	Red iris	peculiar to some birds.
	Three white crown feathers	ornamentation at breeding-time.
Beak	Large, lance-like	killing prey.
	Sharp-edged	to hold slippery food.
Eyes	Well forward	for quick sight.
	Large pupils	to see at night.
Neck	S-shaped	to dart at food.
	Length of legs	to reach food.
	Drawn in when flying	better balanced.
Legs	Long	to keep body above the water.
	Most part unfeathered	not to get feathers wet.
	Straight back when flying	to steer.
Toes	Long and wide spread	to distribute weight.
	Slightly webbed	to bear them up in soft mud.
	Back toe well developed	useful in perching as well as for balancing
Tail	Short, weak feathers	steers with legs.
Wings	Long and broad	strong flight.

C. Conclusion. The pupil should be led to make the general conclusion, from facts gathered, that the Black-crowned Night Heron is a wading bird well adapted to its home and habits of getting food. Later the pupil will begin to see that to a great extent any bird is structurally adapted to its environment, that is to where it lives and what it eats. These two topics namely, home and habits, should come first, therefore, in considering an animal.

D. Comparison. The Black-crowned Night Heron has been used as a type of Heron and of a larger group commonly known as wading birds. The pupil is now ready to understand related forms and to search out differences and possibly, to give reasons for variations. A visit to a museum, if convenient, may well be made or pictures of the various forms studied used. Questions for observations should be given for this lesson in the same manner as before. The following notes are subjoined for the benefit of the teacher who may add to them as occasion demands.

1. *Plovers.* Slender bill, to probe ground; wings long and acute; swallow-like flight; hind toe small, scarcely touching ground; builds nest on ground; toes not webbed, gathers food from upper part of beach in firm sand; each toe has lobes (water propellors), yet is suited to running along the beach.

2. *Avocet.* Long curved bill, to search out worms and snails in crevices and under stones.

3. *Woodcock.* Long bill, to thrust into mud for worms; end extremely sensitive, for the purpose of feeling for food; eyes far back; tongue secretes a sticky substance to help hold worms; brown-colored plumage; builds nest on ground in leaves. Wilson's Snipe is a close relative of the Woodcock.

4. *Jacana* has feet adapted for walking on floating lily-pads; spurs on wings used for fighting; found in South America.

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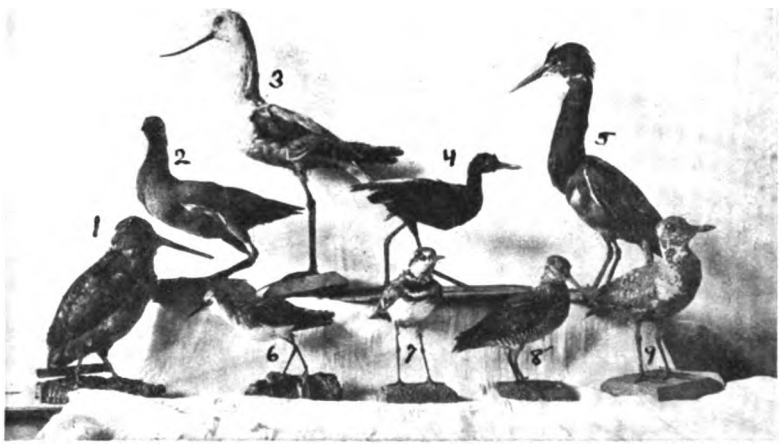
E. CORRELATIONS. Have the class investigate and make reports on the following:

1. *Literature.*

Story of the Egret.
Why our Shore Birds are Disappearing.
The Stork.
Child Stories: Hans Brinker, or The Silver Skates, by Mary Mapes Dodge, pp. 237–39.
Wonder Stories Told for Children by Hans Christian Anderson, pp. 431–36.
The Cranes' Express. An Old Tale. Adapted for Lower Grades.

2. *Drawing.* The Heron and its relatives have been used a great deal, especially in ornamentation, by the Japanese. The class might look over the chinaware and vases at home and bring in pieces that illustrate the use of birds in art. Birds are picturesque whether wading or flying. A cover design might be made at this time for the note-books. Drawings to show the various forms of beaks and feet are interesting. Visit an art museum and study the use of the Heron in art.



4. SOME WADERS
(1) Woodcock, (2) Florida Gallinule, (3) Avocet, (4) Jacana, (5) Green Heron. (6) Spotted Sandpiper, (7) Killdeer, (8) Wilson's Snipe, (9) Black-bellied Plover.

MY FIRST TRIP TO A REAL 'BIRD HAVEN'

I had often thought of going down in the woods on our place for the purpose of watching birds, but every time I decided to go something would hinder me.

One day, however, I jumped on my pony, with her colt at our heels, and started to the woods. 'Ladie,' my pony, is really a wonder for crossing brooks, and she saves me many a step till I get to the woods, where I tie her to some old fence-post, and then I am free for a good frolic with the birds.

She apparently knew what I was going for when I started off in a gallop, and did her best to take me to the woods quickly.

When we reached the long longed-for place, I dismounted quickly, and in a short time was rambling over briars, making my way through thickets, and at the same time listening to the songs of the birds.

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After walking a little way I came across several paths and, following one, finally came to a quiet place with the grass beaten down and bushes growing in a circular position, forming a sort of tree-house.

I waited there a minute, intending to go on after a few minutes' rest, when all the songsters I wanted poured in upon me.

Generally, when one goes 'bird hunting,' they play 'hide and seek' with the birds, the game beginning with the bird-lover seeking and the birds hiding, but this particular visit to the woods evidently reversed matters on my part, for at that moment, I seemed to be hiding and the birds seeking.

The Towhee's clear notes, which call his name, sang forth from the upper branches of my so-called house. He changed his position and was silent a minute, then again, as before, he burst forth in melody, letting every member of the happy family of birds know where he was.

A little Carolina Wren seemed very much surprised, when it saw the green figure so closely watching from below, and with sharp *chits*, which grew rather monotonous after calling quite a while, let me know that I was trespassing on its land.

An Indigo Bunting, who was changing to winter plumage, expressed its opinion of me by uttering a sweet but not at all wonderful song on a bush quite near my hiding-place.

Two Catbirds sang an ever-changing duet on the topmost branches of my house.

A Brown Thrasher made me a visit and entertained me the whole time I was there by a most human-like conversation.

A little Maryland Yellow-throat sent forth its curious warble from a near-by bush.

A bright Redstart sang daily thanks on one of the bushes that comprised my house.

There were so many birds singing at the same time that the very trees resounded, and the echoes went in every way, bounding through the woods, awaking every sleeping squirrel.

Is there anything in bird-study more gratifying and encouraging than to have the birds seek you, instead of you seeking them?—SARAH WALDRAN WEAVER (age 13 years), "*Clynmalia*," *Monkton, Md.*

[No comment is needed beyond the following quotation from a letter accompanying the above:

"Two articles sent with very near dates seems quite often to write my experiences to BIRD-LORE, but I was so enthused with my last experience that joy, gratification and encouragement just simply made me write this article.

My pony and her colt are my two best friends in watching birds. 'Ladie' makes no complaints when I tell her we are going bird-hunting, but without a word she takes me to one of my best friends, the woods."—A. H. W.]

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AN UNUSUAL EXPERIENCE

Yesterday morning I was over at my friend's house. There were two little Rose-breasted Grosbeaks on her piazza. One was a male and one a female, I think, for one had brighter colors—brown, white and pink—and the other just brown and white.

I told my friend to leave them as the father bird was afraid. So we went into the garden. Soon I felt something on my shoulder. I looked around and there was one of those darling birds. I put it back on the tree, and the two were soon flying finely.—MIRIAM SMITH (age 10 years), *Waltham, Mass.*

[This unusual experience fell to the lot of a Junior Audubon Society member whose teacher writes: "After having made inquiries in regard to the Rose-breasted Grosbeak story, I am convinced it is correct. Several people saw the bird and nest, and the little girl described the bird correctly to me." Look up the plumages of the male and female Grosbeaks in Chapman's Handbook.—A. H. W.]

KINGFISHERS IN LINCOLN, MASS.

Once upon a time, when I was driving with my father, I saw in the sky a bird. It was flying right over the Cambridge reservoir, darting down every now and then. When it came down I saw it was a Kingfisher. One day after that I went over to hunt for the nest. I walked for miles and miles, up and down, but I never found it, and the Kingfishers have been there ever since.—JAMES DENORMANDIE, JR. (aged 9 years).

[Hunting for the Kingfisher's hole is an eye-sharpening process. One may easily walk directly by the hole many times without noticing the approach, which, by its appearance, shows the experienced observer whether it is in use.—A. H. W.]

HOW TO ATTRACT HUMMINGBIRDS AND GOLDFINCHES AROUND A HOUSE

As I was sitting on the porch on the morning of August 12, 1916, I noticed a Hummingbird in the canna bed, which is very close to the house. The little bird flitted from flower to flower, and as I watched it, flew up in a pear tree very near the canna bed. I walked over to the tree and stood under the branch that the Hummingbird was on. It did not seem to be a bit afraid of me. This Hummingbird had a green back and white throat and breast. I had my mother come out and she also watched it. It stayed on the branch a long time, picking and scratching itself. After a while it flew to the canna bed and then up in the tree two or three times. When the little Hummingbird was in the canna bed, its mate came, and they both flew off together. These two little birds come to the flower-bed a great deal. Sunflowers are planted in the back and front yard, and Goldfinches come very often to these and eat the seeds. They stand on the top of the flower and lean way over and pick at the seeds.

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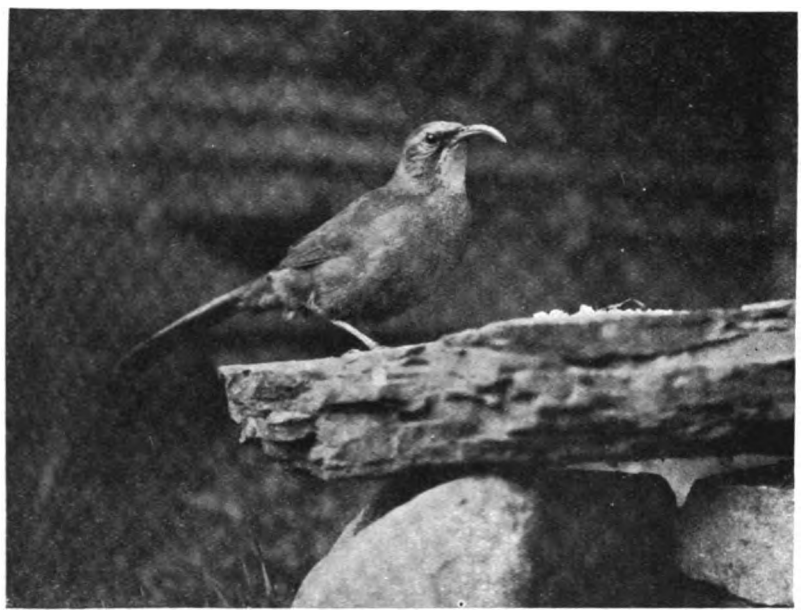
I think one nice way to attract Hummingbirds and Goldfinches around a house is to have cannas and sunflowers planted in the yard.—(Miss) GLADYS FANTON, *Good Ground, L. I.*

[See 'Experiments in Feeding Hummingbirds During Seven Summers,' The Wilson Bulletin, Vol. XXV, No. 85. Among our daintiest and most familiar birds, the two species referred to above offer daily pleasure and interest to anyone so fortunate as to have their companionship. The female Hummingbird when perching looks more like a large dragonfly than a bird. The Goldfinch is quite as acrobatic as the Chickadee in its feeding activities.—A. H. W.]



CALIFORNIA THRASHER
Photographed by Emily S. M. Waite

A CALIFORNIA THRASHER

This photograph of a California Thrasher was taken near the 'Cottages' at the upper end of the Ojai Valley, Ventura County, California, which is a veritable paradise for birds, from the humble 'Linnet' to the great Condor sailing over the highest peaks of the Santa Ynez Mountains. We had for implements a No. 3 A. Folding Kodak, with portrait lens, and a wooden box loaded with stones, to which the camera was tied as we possessed no clamp to steady it. We placed a large flat stone on a pedestal of smaller ones, and put food on it twice a day before we tried any snapshots. —EMILY S. M. WAITE, *Nordhoff, California.*

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THE WHITE-THROATED SPARROW

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 92

It is in autumn, when the hills take on their dresses of red and gold and the fields stretch away brown and deserted to the blue haze hanging along the horizon, that I go in quest of the White-throated Sparrows. They are not to be found in the deep woods, nor often on the open meadows, but it is in the hedgerows, among the briars of the old fence-corners, or in the thickets on the edge of the forest that one will discover them. When you find one Whitethroat you are pretty sure to find several others. Very often they are with Juncos, and sometimes a few Song Sparrows are found feeding in their company. There are usually at least a dozen in a flock, and sometimes fifty or a hundred birds will be found together, at least half of which are Whitethroats.

This bird was a favorite with Audubon, and his account of its behavior in the autumn days gives one a splendid idea of the Whitethroat's manner of life at this season:

"How it comes and how it departs are quite unknown to me. I can only say that, all of a sudden, the edges of the fields, bordering on creeks or swampy places, and overgrown with different species of vines, sumac bushes, briers, and the taller kinds of grasses, appear covered with these birds. They form groups, sometimes containing thirty to fifty individuals, and live together in harmony. They are constantly moving up and down among these recesses, with frequent jerkings of the tail, and uttering a note common to the tribe. From the hedges and thickets they issue one by one, in quick succession, and ramble to the distance of eight or ten yards, hopping and scratching, in quest of small seeds, and preserving the utmost silence. When the least noise is heard, or alarm given, and frequently, as I thought, without any alarm at all, they all fly back to their covert, pushing directly into the thickest part of it. A moment elapses, when they become reassured, and, ascending to the highest branches and twigs, open a little concert, which, although of short duration, is extremely sweet. There is much plaintive softness in their note, which I wish, kind reader, I could describe to you; but this is impossible, although it is yet ringing in my ear, as if I were in those very fields where I have so often listened to it with delight.

"No sooner is their music over than they return to the field, and thus continue *alternately* sallying forth and retreating during the greater part of the day. At the approach of night they utter a sharper and shriller note, consisting of a single *twit*, repeated in smart succession by the whole group, and continuing until the first hooting of some owl frightens them into silence. Yet,

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WHITE-THROATED SPARROW

Order—PASSERES
Genus—ZONOTRICHIA
Family—FRINGILLIDÆ
Species—ALBICOLLIS

National Association of Audubon Societies

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often during fine nights, I have heard the little creatures emit, here and there a *twit*, as if to assure each other that all 's well."

There are some birds whose food-supply consists entirely of one special kind of article. For example we can hardly imagine a Cormorant, Pelican, Osprey, or Kingfisher engaged in consuming any food other than fish. Swallows and Swifts eat insects that they capture while in full flight. To secure such a diet it is therefore necessary for them to travel long distances twice a year to reach lands where the insect-life they desire may be obtained. With Sparrows, however, we find that quite a different condition exists. They are not fitted for capturing fish, like the Pelican or Osprey, but they do eat almost any kind of food that is available.

In the fall of the year White-throated Sparrows consume many berries which they pick off the vines and berry-producing trees. They collect, also, the seeds of those berries that, dried or decayed, fall to the ground. Not long ago I watched for a time a flock of fourteen of these Sparrows feeding on the red berries of a little tree growing in a park. I have not been able to learn the name of the tree, but the berries it produces are evidently very choice from the standpoint of the birds. Some of the Sparrows were busily employed in picking off and eating the fruit. Others, perhaps early comers, were already satisfied, and in a bunchy, ruffled-up kind of attitude, sat very still and appeared to take no note of the sounds of banqueting going on all about them. It was only when a vagrant cat appeared on the hillside near by that these drowsy fellows exhibited signs of returning animation.

In collecting weed-seeds the birds hop about among the vines or tall weeds and carefully search through the debris on the ground. When the earth is strewn with fallen leaves and these are dry, the rattling, rustling noise of a flock of feeding Whitethroats may lead one to think a Grouse family is advancing along the ground. Whitethroats fly up and alight on the sides of ragweeds, and, fluttering there, they pick at the seeds that have not yet dropped. I have seen slender, brittle weed-stalks break off in such circumstances, when down would come weed-stalk, birdie and all. It may readily be seen that these birds are valuable to the farmer who spends most of his summer trying with hoe and plow to keep the weeds from overrunning his crops. For this reason laws for their protection have been passed in all the states where this Sparrow is found.

Among migratory birds, the exclusive insect-eaters are among the first, as a rule, to leave their northern homes in autumn, while those that are more omnivorous in their feeding-habits usually linger until the winter is fairly upon them. Many of the Whitethroats do not depart until November, and, in fact, numerous flocks remain all winter as far north as New Jersey and Ohio. Some indeed are often seen throughout the winter at points even north of this region. In suitable localities all over the South, as far as the Gulf of Mexico, they pass the colder months. Here they thrive and grow fat and at times are

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killed and eaten. Audubon describes at length the method employed by people in Louisiana to secure the birds in the early part of the last century. They were killed by blowing sharp sticks tipped with squirrel fur through a hollow reed; in short, these hunters used blow-guns much like those employed today by Indians in the jungles of South America and elsewhere. Today the laws of all the eastern states protect the Whitethroat, and its enemies now consist mainly of the Screech Owl, to a limited extent the Sparrow Hawk and Sharp-shinned Hawk, but most of all the prowling, vagrant house-cat.

By the middle of November the majority of these Sparrows have departed from the latitude of New York and will not be seen there again until March or early April. From then until the dogwoods are in full flower these birds are about, and may be seen if one will only take the time to tramp about the country until they are found. They begin to arrive in Canada early in May, and soon all over the eastern part of the Dominion where forests or woodland abound the Whitethroats are to be seen. In the summer they occur as far west as Alberta, and are common in the central part of that province.

Of all the numerous members of the Sparrow Family found in North America no species is better known for its song than this one. In the evergreen forests of the North its clear, beautiful whistle is one of the most characteristic sounds of the region, and it strikes the ear with a freshness that is truly delightful. There are many who have tried to interpret its song and tell us in English what the bird is saying when it sits upon the pine-top and whistles away for half an hour at a time. Mr. Stansell, of Alberta, for example, tells us that the call to his mind strongly suggests the words "Oh see me me me me me." A very common rendering of its song is given as "Old Sam Peabody, Peabody, Peabody." There are many variations of this last translation, in all of which the word "Peabody" is prominent. It seems to the ears of some of our Canadian friends that the bird is always shouting "Peabody," and hence long ago the custom arose of calling it the Peabody Bird.

On the other hand, probably, just as many people know it as the Sweet Canada Bird, for they are thoroughly convinced that when the Sparrow sings it says "Swe-e-et Can-a-da, Can-a-da, Can-a-da." William Hamilton Gibson relates the incident of a perplexed farmer named Peverly, who did not know what to plant until he heard a Whitethroat sing, "Sow wheat, Pev-er-ly, Pev-er-ly, Pev-er-ly."

THE SING-AWAY BIRD

Have you ever heard of the Sing-away Bird,
That sings where the Runaway river
Runs down with its rills from the bald-headed hills
That stand in the sunshine and shiver?
"Oh, sing! sing-away! sing-away!"
How the pines and the birches are stirred
By the trill of the Sing-away bird!

. . . . . .

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'Twas a White-throated Sparrow, that sped a light arrow
Of song from his musical quiver,
And it pierced with its spell every valley and dell
On the banks of the Runaway river.
"Oh, sing! sing-away! sing-away!"
The song of the wild singer had
The sound of a soul that is glad.
—Lucy Larcom.

It is rather easy to whistle an imitation of the Whitethroat's notes, and so much curiosity does the bird possess that often it will come from a distance at the call, and chirp and look and crane its neck with the liveliest interest. There are comparatively few birds that will do this. The Bob-White will come if called by an expert, and in spring or summer most anyone can gather a number of small birds around him in the woods by merely sucking the back of the hand, thus making a squeaking noise. In this case the birds show evidence of alarm and concern, for such a sound is a fair imitation of a baby bird in distress.

The White-throated Sparrow is quite a handsome bird. With the exception of the Fox Sparrow, bird-students would perhaps vote it the handsomest species of the eastern states. It is six and three-quarters inches long, which is one and a quarter inches longer than the Chipping Sparrow, but this does not well represent the relative sizes of the two birds, as the Chipping Sparrow is much more slender in proportion to its length than is our Peabody Bird.

The nest is usually built on or near the ground. It is made of grasses, grapevine stems, and other materials of similar character. The lining is usually of fine grasses, although at times feathers, deer-hair, or rabbit-fur is used as a soft bed for the eggs. These range from four to five in number. The pale green ground-color is thickly marbled with various shades of chocolate and brown.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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FREDERIC A. LUCAS, *Acting President* — T. GILBERT PEARSON, *Secretary*
THEODORE S. PALMER, *First Vice-President* — JONATHAN DWIGHT, JR., *Treasurer*
SAMUEL T. CARTER, JR., *Attorney*

Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

RECRUITS FOR CONSERVATION

Since the last report of the list of societies and bird clubs that have joined the federation of workers under the Audubon flag by becoming affiliated with this Association, a goodly number of others have entered and thus strengthened the force. Among them are:

The Minnesota Game Breeding and Protective Association. This includes many high-minded sportsmen who realize that both their interests and their inclinations should lead them to care for the song-birds, as well as for game-birds, and who are establishing and guarding refuges that will be of great service to the state.

The neighboring state of Wisconsin has added two societies to the list—the Wild Life Protective Association, which is particularly active, with headquarters in Milwaukee; and the Bird Club of Racine, consisting mainly of ladies intent on education of the young people of that city and neighborhood.

Michigan is represented by the Zoölogical Society of Detroit, which thus enlarges its influence, and by the Bird Club of South Haven.

Indiana also contributes two additions —the Humane Society of South Bend, which now extends its protection over the wild as well as the domesticated animals of the northern part of its state; and the Vigo County Bird Club, organized by the ladies of Terre Haute.

Other western states add the Maywood Bird Club of Maywood, Ill.; the Women's Club of Sunnyside, Wash.; and the Normal Bird Club of Glenville, W. Va. The last is the sort of organization we especially like to receive in our ranks, as it consists of persons preparing to teach, and thus to scatter their influence in various parts of the state among the children, where the largest effect is obtainable.

The Savannah Audubon Society of Savannah, Ga., and the Science Club of Cumberland, Md., are other new and welcome members.

Coming eastward, growing interest is manifested by the entry into this Association of the powerful Bird Club at Rhinebeck, N. Y., which enjoys the strong support of Messrs. M. S. Crosby, Tracy Dows, Clinton G. Abbott, and others well equipped to accomplish great things in their community. This club has organized this year Junior Audubon Classes in almost every district school in its field of work. "The importance of these classes," Mr. Dows explains to the people of his

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country, "lies in the fact that tastes are formed in early youth, and a child who once gains a knowledge and a love of birds will always have an instinctive sympathy for wild creatures in after life. Such a training tends to make the child a better citizen in every way."

The Burroughs, Jr., Audubon Society of Kingston, N. Y., has its field of work just across the Hudson from Rhinebeck; and its name recalls that the venerable naturalist, John Burroughs, dwells near by.

That a town like Ithaca, N. Y., the seat of Cornell University, should have a strong society almost goes without saying, and we are happy to welcome the Cayuga Bird Club, whose president is the far-known artist of bird-life, Louis Agassiz Fuertes, and whose secretary is Prof. A. A. Allen, one of the foremost photographers of, and writers on, the habits and home-life of birds.

New England has added to our list the Fortnightly Club of Leominster, the Bird Club of Newburyport, the Bird Club of Williamstown, and the College Club of Wellesley—all in Massachusetts. The last is especially fortunate in enjoying the advice of that accomplished teacher of natural history, Prof. Marian E. Hubbard. A flourishing society in Maine, the Cumberland County Audubon Society, is the latest recruit, and will do good work under the helpful advice of Arthur H. Norton, of Portland.

Looking back over this list, the Association has great reason to congratulate itself on its new members.

AN APPEAL FROM RUSSIA

Editor BIRD-LORE:

There is lately being manifested in Russia a great interest in the protection of nature. During the last decade a great series of reserves has been organized in Russia by various societies and private individuals. Unfortunately, protective measures could not be organized in these reserves upon a rational basis, because the administration of them is entirely ignorant of the practical details of organization or management exemplified in some of the foreign reserves.

The Society of Nature Lovers of Kharkoff, Russia, organized in 1914-15 an exhibition on protection of nature. This exhibit was repeated with excellent results in Kieff. At present, the Caucasian Branch of the Russian Geographical Society collects materials for the working out and the enactment of new laws for the preservation of "monuments of nature." The teaching of the protection of birds is being introduced into some of our schools.

In November, 1916, at the Society of Naturalists in Kharkoff, there was organized a special commission under the presidency of the author of this appeal for the propagation of the idea of bird-protection among the city and rural population. The commission makes every possible effort to prove to the public the tremendous educational, economic, esthetic, pedagogic, and ethic significance which the protection of birds and, in general, of natural wealth and resources has upon the life of every country. It is in the plans of this commission to publish a large series of popular leaflets for distribution among public-school teachers and children, and to establish a small factory for making feeding-boxes, nesting-boxes, etc.

We most earnestly appeal, therefore, to all lovers and protectors of nature, of birds, game, fishes, forests, etc., to acquaint us, representatives of Russia, with the methods of protection of natural riches and of monuments of nature employed in their respective countries. We request that all material, advice, etc., be kindly sent to the following address, which will remain unchanged for five or six years:

GEORGE BRISGUALINE,
6 Tarassovskaja Street.
Kharkoff, Russia.

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COMMENT ON CURRENT EVENTS

Migratory Bird Treaty Bill

On April 10, 1917, the Migratory Bird Treaty Bill was introduced in the House of Representatives at Washington by the Hon. Henry D. Flood, of Virginia, and was referred to Mr. Flood's committee, which is the Committee on Foreign Affairs. On the same day the Hon. Marcus A. Smith, of Arizona, introduced the measure in the Senate for Senator George P. McLean, where it was referred to the Senate Committee on Foreign Relations. On April 20 this committee reported the bill favorably, and at the present writing it is on the calendar of the Senate, ready for a vote.

There appears to be no great reason why the bill should not pass and become a law. The opposition to it is of a weak, illogical character, and surely Congress will find time in the midst of its other activities to conclude the arrangements for enforcing a treaty which has already been ratified between this country and the friendly nation of Great Britain.

Proposed Cat Legislation

Bills intended to restrict the number of vagrant, homeless cats of the country have been introduced of late in the Legislatures of the following states: Massachusetts, New Hampshire, Connecticut, New York, New Jersey, and Wisconsin. Probably in none of these states will the bill pass at this time, although an increasing amount of support of the idea seems to be indicated each year. Thus, in the New York Legislature that never seriously considered the bill before, it recently was brought to a vote in the Senate with the result that it was passed by a vote of twenty-eight to fifteen.

In New Jersey the bill passed the Assembly, and went to the Senate late in the session. It was referred to the Senate Committee on Game and Fisheries and favorably reported by that Committee, but was re-committed by request of its chairman to the Committee of Miscellaneous Business. It was there amended by striking out all of the original matter and making it read that any cat running at large in the fields or woods would be considered a nuisance and might be killed by any person, without criminal or civil liability. This action, at that late day, was equivalent to killing the bill.

Yearbooks

It is a good plan for Audubon societies and bird-clubs to issue yearbooks, even if on a very moderate scale. This Association is glad to get any publications of that sort and will file them. The yearbook of the Hartford (Conn.) Bird Club is an excellent example and shows that that club, founded in 1909, has an important place in the social and intellectual life of its city. A program of field-meetings and of indoor sessions is arranged for every Tuesday in the year from September 19 to June 16, and two excursion parties for midsummer.

This club now has nearly five hundred really active members.

A useful little pamphlet issued by the Cocoanut Grove Audubon Society, of Florida, contains a brief digest of the bird-laws of that state and a list of its twelve bird-reservations, one of which (Paradise Key) is the property of the State Federation of Women's Clubs.

Plumage Importation Halted In Great Britain

Letters from Mr. James Buckland inform us that the British Government has suspended the importation of the plumage of wild birds during the war, and that he is later going to try to have the prohibition made permanent. Mr. Buckland has been working very hard to secure this measure; no doubt it will be easier to make the rule permanent after the war than it has been to get the matter begun in the previous time of peace.

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NEW MEMBERS AND CONTRIBUTORS

Enrolled from March 1 to May 1, 1917.

Life Members:

Clarke, Hopewell
Smith, Mrs. Heber

New Members:

Achelis, Fritz
Adams, Miss Emma L.
Alter, Mrs. Franklin
Anderson Bird Club
Armour, Allison V.
Armour, William A.
Baetjen, Mrs. F. H.
Baker, Ira H.
Baldwin, Miss Mary E.
Ballmann, Mrs. Frank
Bassford, Mrs. L. C.
Bates, V. W.
Beecher, William H.
Bent, Miss Catherine M.
Bird Conservation Club
Black, George P.
Blair, Gist
Boody, Mrs. Edgar
Bovert, Masters
Bowles, Mrs. H. L.
Boyd, Mrs. John Y.
Breneiser, Stanley G.
Brewster, Mrs. Frederick F.
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One of the most successful methods by which a bird club or other organization may arouse interest in bird-study and bird-protection is by holding an educational exhibit. This usually consists of displays of bird-houses and nesting-boxes, feeding-devices, nests, charts, pictures and other articles of interest to the bird-lover. The office of the National Association of Audubon Societies has been able to coöperate in such work by lending exhibition material to, and by providing printed matter for distribution at, about fifteen such exhibits this spring.

The high school at Holland, Mich., held a very successful exhibit with motion-pictures and a bird-house contest. The Public Library at Fort Wayne, Ind., assembled a very good educational display, showing books, magazines and other literature, as well as mounted birds and other interesting articles. The Newton Center Bird Club, of Massachusetts, exhibited the latest ideas in bird-houses and feeding-devices and a large collection of mounted birds and bird-skins. The State Normal School at Montgomery, Ala., is gathering exhibition material for display at its Bird Day Celebration. The North Carolina Federation of Women's Clubs is planning a conservation exhibition for their May meeting at Durham. The Audubon Society of western Pennsylvania and the Sewickley Valley Audubon Society had a very good exhibit in connection with their joint meeting and annual dinner in Pittsburgh.

Other bird clubs, schools, and individual workers that have reported highly satisfactory results from such exhibits are Mr. S. Seibert Knode, of Boonsboro, Md.; Mr. D. J. Fair, of Sterling, Kans.; Prof. Cyrus A. King, of Brooklyn, N.Y.; Mr. O. L. Mitchell, of Cuyahoga Falls, Ohio; the West Tennessee State Normal School, at Memphis; the Ethical Culture School of New York City; the Forest Hills Gardens (N. Y.) Audubon Society and the recently organized Seattle (Wash.) Audubon Society.

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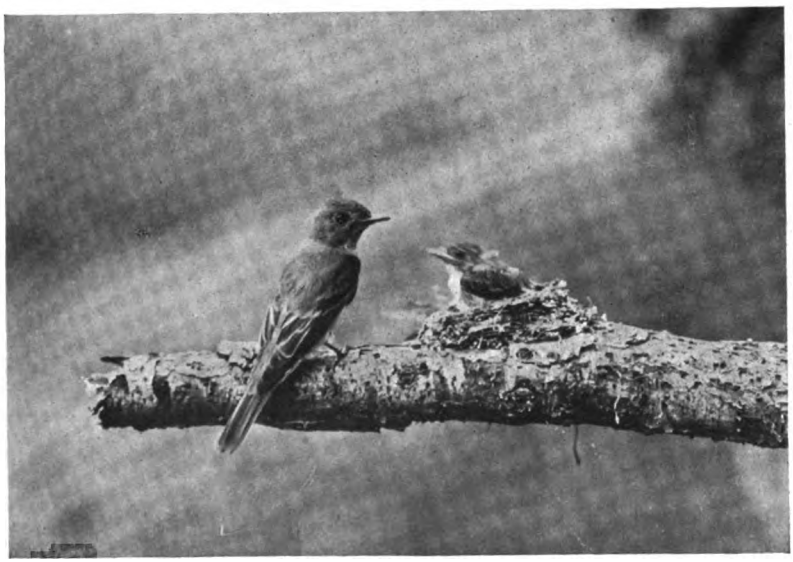

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Bird-Lore

July-August, 1917

CONTENTS

GENERAL ARTICLES PAGE

CHILDREN OF THE MIDNIGHT SUN. Illustrated. ..... *Joseph Dixon*.. 185
THE GIANT BIRD DIATRYMA. Illustrated..... *Walter Granger*.. 193
THE SCHUYLKILL HERONRIES..... *F. L. Burns*.. 197
WOOD PEWEE'S NEST AND YOUNG. Illustration..... *A. A. Allen*.. 199
CHRONICLES OF A HUMMINGBIRD FAMILY. ..... *Minette Sherman*.. 200
RUBY-THROATED HUMMINGBIRD. Illustration..... *A. A. Allen*.. 202

NOTES FROM FIELD AND STUDY 203

SEVENTEEN WARBLERS IN A SINGLE TREE, *Samuel A. Eliot, Jr.;* WARBLER NOTES FROM BENNINGTON, VT., *Dr. and Mrs. Lucretius H. Ross;* EVENING GROSBEAK IN CONNECTICUT IN MAY, *R. E. Harrison and J. B. Derby;* HORNED LARKS AT ROCHESTER, *Raymond Reuter;* A PAINTED BUNTING IN PENNSYLVANIA; VERMONT NOTES, *Dr. and Mrs. Lucretius H. Ross;* FLORIDA GALLINULE IN CONNECTICUT IN APRIL, *Arthur G. Powers;* RED-BELLIED WOODPECKER IN IOWA, *T. H. Whitney;* SNOWY OWLS IN IDAHO, *Alex. Stalker;* A SONG FROM THE NEST, *Henrietta E. Delamare;* A PRACTICAL BIRD-BATH, *May S. Danner;* DRESSED IN WHITE, *Lena L. Johnson;* A WHITE SWALLOW, *R. T. Burdick;* AN ALBINO GRACKLE, *Lilian S. Loveland.*

THE SEASON 209

BOSTON REGION, *Winsor M. Tyler;* NEW YORK CITY REGION, *Chas. H. Rogers;* PHILADELPHIA REGION, *Julian K. Potter;* WASHINGTON REGION, *Harry C. Oberholser;* OBERLIN REGION, *Lynds Jones.*

BOOK NEWS AND REVIEWS 213

CRANDALL'S 'PETS: THEIR HISTORY AND CARE'; THE ORNITHOLOGICAL MAGAZINES.

EDITORIAL 215

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT 216

CONSERVATION MEASURES, *A. H. W;* JUNIOR AUDUBON WORKS; FOR AND FROM ADULT AND YOUNG OBSERVERS.

EDUCATIONAL LEAFLET No. 93. THE PHŒBE. With Colored Plate..... *T. Gilbert Pearson* 228

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT..... 232

A NEW THREAT TO BIRD-LIFE; OUR ARMY OF RECRUITS FOR BIRD PROTECTION; LIBRARIES AND BIRD PROTECTION; A WORD IN SEASON; NEW MEMBERS AND CONTRIBUTORS; WITH OUR AFFILIATED SOCIETIES.

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A Conference With Our Readers

THE making of BIRD-LORE is distinctly a coöperative undertaking. The interests of its readers and editors are one. All have that love of birds which induces them to study their ways and to promote an increased knowledge of their beauty and value. Contributors to BIRD-LORE's pages are, in a sense, members of the magazine's staff. They determine largely the character of the magazine's contents, the editors merely selecting from the large number of manuscripts which are voluntarily offered, those which, in their opinion, are most deserving of publication. In short, the relations existing between the editors, contributors, and readers of BIRD-LORE are wholly unlike those which prevail where the editors of a magazine decide upon its policy, character, and contents and offer the finished product to the public on a business basis as a commercial venture.

For these reasons we have felt that we should confer with our readers before making a decision in regard to BIRD-LORE necessitated by conditions which for some time have confronted us. Everyone in any degree familiar with the publishing trade knows that in all its departments there has been a marked increase in manufacturing prices. The charges for composition, presswork, and engraving, for example, have increased from ten to twenty per cent, and the crisis has now been reached by an advance in the price of paper of from fifty to one hundred per cent.

This is a 'condition not a theory.' Expressed in figures, it means that a printed product which formerly cost one dollar to manufacture now costs more than a dollar and a half. When there is sufficient margin between the prices of cost and sale, the result is decreased profit; when there is no such margin, the result is production at a loss.

Here we have BIRD-LORE's case in a sentence. The magazine's net subscription price is the cost of manufacture. Anyone who will take the trouble to examine a volume of BIRD-LORE with its over five hundred pages and twelve colored plates, will, we think, be convinced of the truth of this statement. A book of this size and similarly illustrated, would be sold for not less than $3, plus postage!

We cannot, therefore, continue to produce the magazine, except at a loss, unless we do one of two things. Either we must increase its cost or decrease its size. To decide this question, we have, as it were, called this council of BIRD-LORE's readers. What will you have; a magazine as large, or even larger, than last year's volume, with twelve colored plates, at $1.50 a year, or a smaller magazine, with fewer plates, at $1 a year? It is for you to decide by expressing your wishes, addressed to BIRD-LORE, at Harrisburg, Pa. But in deciding you should know that we already receive far more material than we can print, and a smaller magazine means the rejection of many valuable articles.

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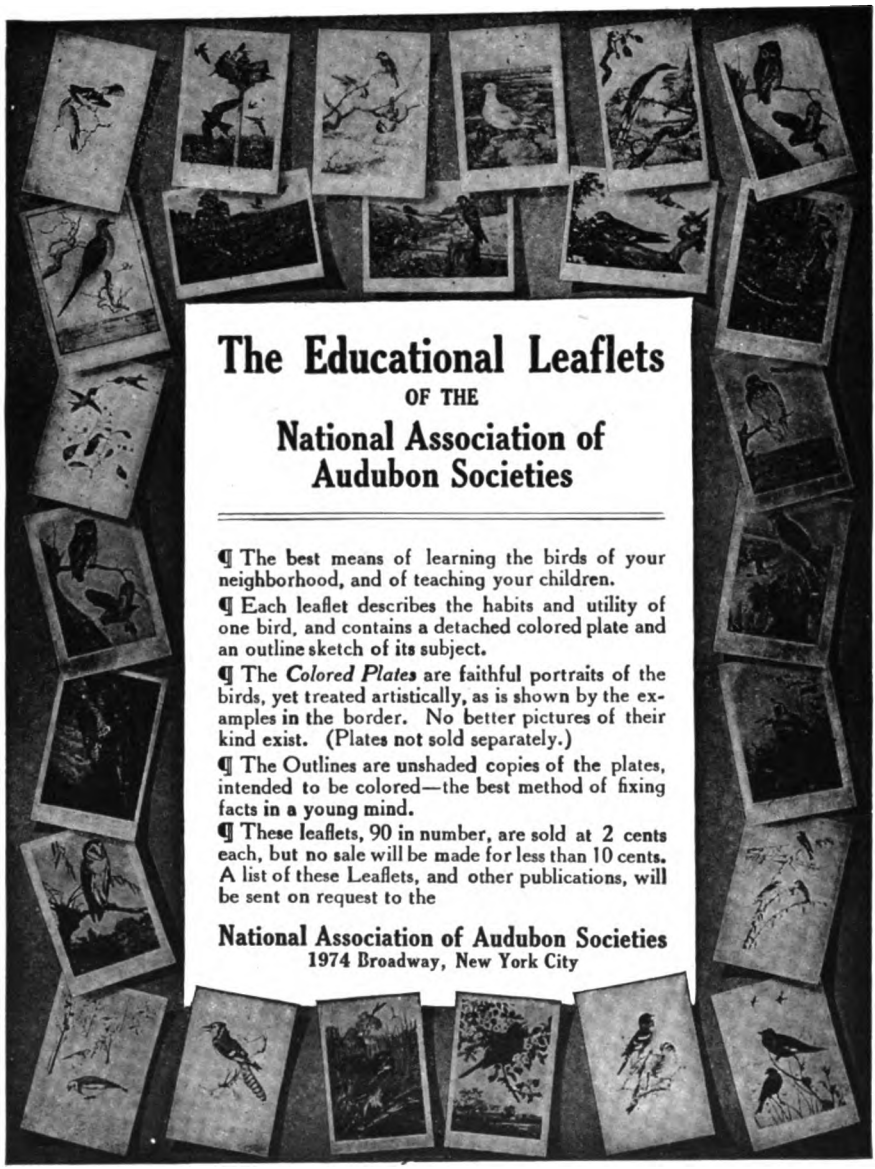

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THE LARGE SNOWY OWL, 'OOK-PICK,' ON HIS FAVORITE PERCH

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DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XIX JULY—AUGUST, 1917 No. 4

Children of the Midnight Sun

By JOSEPH DIXON, Berkeley, Cal.
With photographs by the author

AMONG the many species of birds that migrate through the United States, there are perhaps fewer species of shore-birds (*Limicolæ*) that remain to breed within its borders than there are of any other group of migrating birds. Many of these waders are not content to spend their summers even in the northern Canadian provinces, but push on until they reach the very shores of the Polar Sea, where they rear their young during the two months of continuous daylight.

Herbert K. Job, in 'Wild Wings,' has called attention to the notable fact that, in spite of all the hunting of the day, there were comparatively very few shore-bird pictures. However, photographs of the domestic life of certain species are not so hard to obtain in the far North, provided one has patience and plates which will not 'sweat' from repeated freezing and thawing. In order to be on hand during the breeding-season, one must spend the previous winter in the north, for by the time navigation opens, the young Shore-birds are running about nearly grown.

The Harvard Alaska-Siberia Expedition of 1913–1914, of which, as the representative of John E. Thayer, I was a member, on account of unfavorable ice conditions spent almost an entire year more than was intended on the Arctic coast of Alaska, two-thirds of the way from Point Barrow to the mouth of the Mackenzie River. To some of us this chance to spend a season on the nesting-grounds of so many rare birds was solace enough for enduring the previous six months of extreme cold and darkness. Among the great and small, no birds were more interesting than the wee Semipalmated Sandpiper (*Ereunetes pusillus*).

On May 24, when the brown moss began to peep through the snow in spots, a little Semipalmated Sandpiper with toes cold and numb waded hurriedly along the edge of an ice-filled tundra pool. Here tiny brown larvæ were being washed out by a rapidly increasing stream that trickled down from the lower edge of the

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ice. It was much warmer on the bare patches of moss, and the little Sandpiper, having come many miles over snow-covered mountains during the night, felt the cold keenly, yet there was an empty stomach which simply couldn't wait a moment longer with all those fat helpless bugs-to-be drifting along in

WINTER CAMP IN THE LAND OF NINE-MONTH WINTERS
Photograph taken by moonlight

the icy water that gurgled under snow bridges down to the near by ice-covered lagoon.

His appetite partly satisfied, the Sandpiper trotted up on a frozen tussock to see if could spy his mate, for he had not gone on ahead of her on their long Arctic pilgrimage as the males of so many birds do. He found her busily investigating a raft of dead grass stems that had gathered in an eddy. With a sudden flirt of his wings he arose and skimmed quickly over to her. She gave a hearty squeak of welcome as he lit, then turned and proceeded with her breakfast. The fare proved scanty, however, and he soon led her back to his own table.

The male Sandpiper now arose on a short flight of observation. To the east and west a wide treeless plain sloped gently down from the snow-covered Alaskan peaks to the southward. In places this endless field of white was broken by the greenish blue of frozen ponds, while farther off a long black line marked the edge of an ice-covered lagoon. Rough, broken ice-fields stretched away to the north, covering the playground of the seal and polar bear. One short flight was enough to assure the birds that they had reached the edge of the Polar Sea and their home for the summer.

The Sandpipers fed heartily all day on the bountiful food-supply and did not worry about a place to sleep. In fact, it was now May 25, and they seemed to know that for almost two months the sun would not set. At midnight it did

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almost touch the still frozen Arctic Ocean to the north, and from 10 in the evening until 3 in the morning, new ice often formed on the smaller pools. During this interval the Sandpipers often huddled together for warmth. However, depending largely on exercise to keep themselves warm, they were out foraging for breakfast by 3 o'clock the next morning.

The frigid, smoky layers of mist that had extended over the tundra from the ice-pack during the night evaporated suddenly, ushering in for the birds a day of twenty-four golden hours. Mr. Sandpiper soon found that it was not going to be all sunshine for him. He had taken only a few short wavy nuptial flights into the crisp air when he observed some bold stranger making love to his mate. He immediately fluffed out his feathers so as to appear as large as possible and proceeded to upset the brazen intruder. Nothing was visible for a moment but two whirling bits of gray and white, but the stranger, evidently surprised by the suddenness and vigor of the attack, sought safety in flight. All that could be seen was an apparently double bird twisting away along a dark broken bank, so closely was the pursuit followed up. Mr. Sandpiper was so puffed up by his victory that he didn't even wait for his next rival to begin operations but gave him a thorough trouncing as soon as he lit on their homestead.

For their homestead it was to be. Mrs. Sandpiper ceased her coquettish ways and no longer bobbed her head to attract the attention of passing males. One morning she was found industriously scratching a shallow hole in the short thick grass on the warm south side of a well-drained hummock, surrounded by connected pools. The next day the cavity was lined with dead willow leaves and contained a beautiful, heavily blotched egg. Each day brought forth an additional egg until there were four. Being remarkably large for so small a bird, they completely filled the nest. In order to economize space, the eggs were kept with the sharp pointed ends facing the center of the nest.

FOUR BEAUTIFUL, HEAVILY BLOTCHED EGGS COMPLETELY FILLED THE NEST

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Mr. Sandpiper was now busy making short song-flights at an elevation of about 50 feet above and near the nest. His song seemed to come from every direction, and this illusion was difficult to account for even by the unusual location of the songster. To human ears it sounded like the mellow trill of a katydid, but to Mrs. Sandpiper he was probably an avian Caruso. These artistic endeavors were often interrupted by the appearance of some, perhaps innocent, intruding Sandpiper, always a cause for combat, when the tenor love-notes gave way to baritone war-cries.

THE FEMALE ON THE NEST ALWAYS FACED THE CAMERA

As overbearing as the pugnacious male Sandpiper was to all strangers, he was always a very considerate and willing helper to his brooding mate. During the cooler morning hours, from 2 until 4 o'clock, he often relieved her of the household duties and kept the eggs warm while she was away getting her breakfast along the edge of a lagoon some 200 yards distant. He was always very shy, and if visited by the human chronicler of his home-life would trot anxiously about, not returning to the nest as long as the intruder remained in the neighborhood. About noontide, on bright cloudless days, the eggs were often left to take care of themselves for a couple of hours while the parents fed slowly along the edge of some freshwater pond or basked in the sun. The eggs blended so well with the general brown tone of the tundra that they were indis-

SHE TURNED THE EGGS OVER WITH HER BILL

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tinguishable from it at a distance of 10 feet, so there was little danger of the nest being robbed.

The mother bird was very uneasy when frightened from the eggs. With spread tail and tremulous wings, she fluttered away uttering agonized squeaks until she was about 50 yards distant. Then she would assume a true Sandpiper attitude and cautiously return. If the observer was partly concealed in some depression, she would return directly to her treasures, but she always turned the eggs over with her bill, apparently to see if they were harmed in any way. She then fluffed out her breast feathers and tucked the eggs under her.

In June, seventeen days after the four fresh eggs were found, a visit to the nest revealed no eggs and but one newly hatched Sandpiper. He must have just escaped from the shell, as his soft speckled down was still wet and bedraggled. The other chicks could not be found until the observer hid, when the

YOUNG SANDPIPER USING ITS WINGS AS CRUTCHES

mother hastened over and hovered them as they nestled together in a little hollow not over 5 feet from the nest. Thus, the Sandpipers left the nest the very morning that they were hatched.

The young Sandpipers' coats consisted of alternate spots of brown and buffish natal down which blended so remarkably with the general brown tone of the tundra as to render the young birds practically invisible as long as they remained motionless. If their exact location was known, they could sometimes be distinguished from their surroundings at a distance of 8 feet; but if their position was not known, they were frequently invisible when only 3 feet distant. The birdman was often compelled to discontinue his search for them because of the danger of stepping on them before they could be seen.

The gait of the young Sandpipers was a stumbling toddle, while their large feet and legs were all out of proportion to the rest of their slender bodies. By drooping and extending their wings they were able to use them as crutches which often kept them from falling. In spite of this extra pair of legs they

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occasionally took headlong tumbles when tripped up by grass-blades. Their note was a low, rusty squeak which often escaped human ears altogether, although the actions of the mother showed that she heard it. Faint as this whispered note was, it seemed to be the means of the family keeping track of each other.

YOUNG TOO LARGE TO BE BROODED, PROTECTED BY MOTHER FROM CHILL WIND

Father Sandpiper ceased his song-flights now and helped keep the young warm. It was a cause of much surprise when it was found that the parents made no effort to feed the young. It was soon seen, however, that such care was not necessary. The young would stumble about and pick up minute gnats and flies with great dexterity, and the shallow algæ-rimmed pools furnished them many a juicy 'wriggler.' One thing was evidently considered very important by the parents during the colder hours of the day: The young must be thoroughly warmed by hovering at intervals not exceeding five minutes.

It snowed the night of July 3, and the fourth was cold and gusty with a chill wind off the ice which was still 4 feet thick around our ship. The youngest Sandpiper was missing that morning and was probably frozen in the snow, although the parents seemed to take equal care of all their children.

Soon after this the largest youngster became very headstrong, insisting upon running about as long as it pleased without being brooded. His father's patience was worn out at last, so he reached over and pecked his wayward offspring on the top of the head until it was glad to stick its head down in the grass to escape the blows. Then the father brooded it with unusual care and solicitude.

FEMALE SANDPIPER AND HER FOUR YOUNG

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A hungry Arctic fox prowled around the home of the Sandpipers the morning of July 5, but the circle of tundra ponds which surrounded the nesting-site proved an effective barrier. Following the marauder's tracks along the beach, we came to where he had eaten a family of young Snow-Buntings that he had dug out of their nest deep in a crack in a 'cut' bank.

Another menace hung over the Sandpiper family in the shape of 'Ook-pick,' the large Snowy Owl. If 'Ook-pick' had waited in orthodox Owl fashion until night-time to hunt for his supper, he would have had to wait for over a month for night to fall, so, being a sensible bird, he did his hunting mornings and evenings. Thus, as he sat one morning on his favorite perch, a log that stuck up out of a snowdrift, he saw what he took to be a brown lemming mouse scamper-

MALE SANDPIPER (IN BACKGROUND) BROODING A CHICK. ANOTHER CHICK TO THE RIGHT AND BELOW CENTER IS AN EXCELLENT EXAMPLE OF PROTECTIVE COLORATION.

ing about near Mrs. Sandpiper. He slid from his perch and sailed on silent wings to the spot, but Mrs. Sandpiper had caught a glimpse of him and gave a quick cry of alarm to her children. Not a feather quivered as the youngsters hastily flattened in the grass. Mr. Owl poised directly over them, blinked his large yellow eyes, and doubtless wondered how that lemming mouse disappeared so suddenly. The little Sandpipers remained perfectly still until their mother called them after the danger was past.

By July 8 the young were leading the parents about. They were now too large to be brooded. During one bright, cold day when there was a freezing wind from off the ice, the mother protected one juvenal from the chill wind by crouching on the windward side of him, thus forming a windbreak. By this time the juvenal's wing-quills were half-grown, and the young birds stood well above the short grass where they fed.

A pair of swift-winged Parasitic Jaegers, the worst feathered villains in the Northland, had often cast mercenary glances at the Sandpiper family. The daily occupation of these Jaegers during the nesting-season was the spying out

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and devouring of all eggs and nestlings that they could find. The second catastrophe in the Sandpiper household was due to the cunning of these cradle-snatching rascals. One morning the light-colored Jaeger made a rush for a juvenile Sandpiper, but the mother gave the alarm in time for the young to flatten their bodies, stretch their necks forward and remain motionless, thereby so resembling the brown-and-black spotted clumps of moss as to be practically invisible. The oldest youngster, always impatient, did not wait for his mother's note of assurance of the danger being past, but started up as soon as he saw the Jaeger fly on down the lagoon. He seemed to have forgotten all about the other Jaeger which had slipped up behind them in the excitement and now darted in and carried off the shrieking youngster. From that time on the 'Birdman' adopted the Eskimo custom of shooting at every Jaeger that came within range.

By July 26, the young were almost as large as their parents and practically full-fledged, although occasional bits of natal down still clung to them in places. By this time several families had joined together and soon there were large flocks that swooped and circled about high in the air in preparation for their long journey South. There was no visible reason for their early departure, for there seemed still to be an abundant supply of food; certainly much more than there was when the first birds arrived in the spring. However, on August 2, large flocks were seen circling high overhead and leaving for the South. In a few more days the wee Sandpipers were all gone and the shallow tundra pools lay forsaken and tenantless in the waning Arctic sunlight.

UNFAVORABLE ICE CONDITIONS IN THE ARCTIC OCEAN, JULY 25, 1914

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The Giant Bird Diatryma

By WALTER GRANGER, American Museum of Natural History

A REMARKABLE new bird has been added recently to the ancient avifauna of North America*. This bird lived in the Rocky Mountain region during Eocene time, some 3,000,000 years ago, and was a contemporary of the little four-toed horse *Eohippus*. It is distinguished as being the largest bird, so far as known, which has ever lived north of the Isthmus of Panama, being excelled in size, in the Western Hemisphere, only by the great *Phororhachos* of the more recent Miocene deposits of Patagonia.

Fossil remains of birds are rare as compared with those of fish, reptiles, and mammals, and consequently our knowledge of the past history, or evolution, of the various groups of birds is meager. The reason for the scarcity of bird fossils is partly because of the extremely delicate character of the bones, which are usually the only parts of a vertebrate animal to be preserved; also because the habits of birds are such as to prevent them from becoming entombed in the sands and muds and thereby becoming fossils of a later time; a third reason is that the bodies of dead birds are apt to be devoured by animals, insects, or by other birds.

The oldest and most important fossil bird known is the *Archæopteryx* from the Jurassic limestones of Bavaria, represented by two specimens which show not only the bones but the impressions of the larger feathers. From the Pleistocene of New Zealand come the great flightless Moas, the tallest birds known, and from Patagonia the *Phororhachos*, also without power of flight. Our own country has made a notable contribution to ancient ornithology in its toothed birds—*Hesperornis* and *Ichthyornis*—from the Cretaceous chalks of western Kansas. Scattered and fragmentary remains of other and more modern birds from time to time have been collected in our western fossil fields; often the specimens consisted of a single wing- or leg-bone or a part of a foot, almost never was there enough of the skeleton to determine the exact relationship to modern birds. It was a matter of unusual interest then when a nearly complete and well-preserved skeleton of the gigantic *Diatryma* was discovered last summer.

The presence of a great bird in North America in Eocene times was known as far back as 1876 when Professor Cope of Philadelphia published an account of some fragments of a foot which he had found in northern New Mexico two years before and to which he gave the name *Diatryma gigantea*. Nearly twenty years later Professor Marsh of Yale described a single toe-bone of a gigantic bird from the Eocene parts of southern New Jersey. He named this *Barornis* but the bone cannot be distinguished from the corresponding bone of Cope's genus. Nothing more was known of this bird until 1911 when the writer found in the Bighorn Basin, Wyo., in rocks of the same age as those in New Mexico,

*See article in the Bulletin of the American Museum of Natural History, Vol. XXXVII, Art. XI by W. D. Matthew and Walter Granger.

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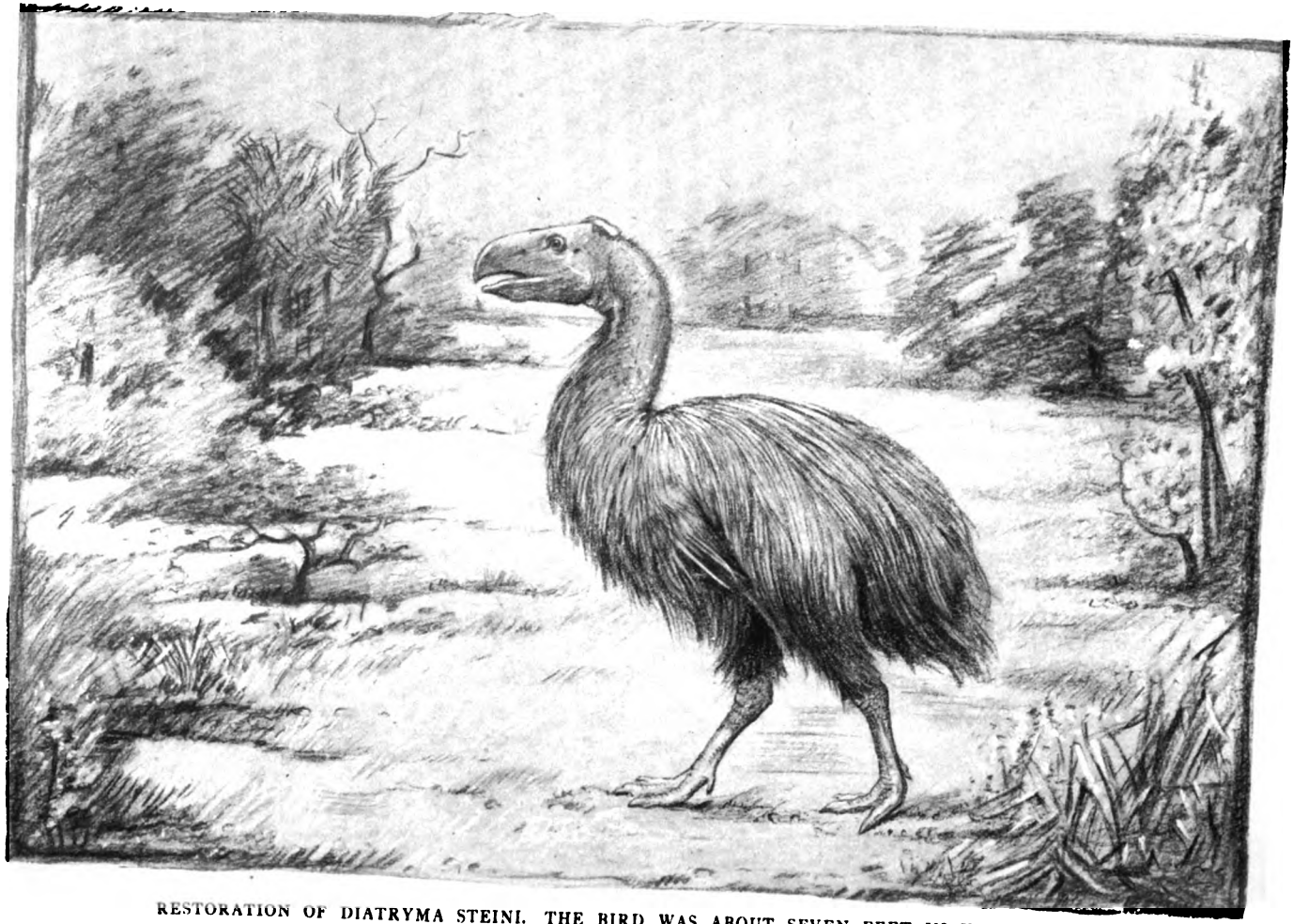

RESTORATION OF DIATRYMA STEINI. THE BIRD WAS ABOUT SEVEN FEET IN HEIGHT. $\times \frac{1}{25}$
(Courtesy of the American Museum of Natural History)

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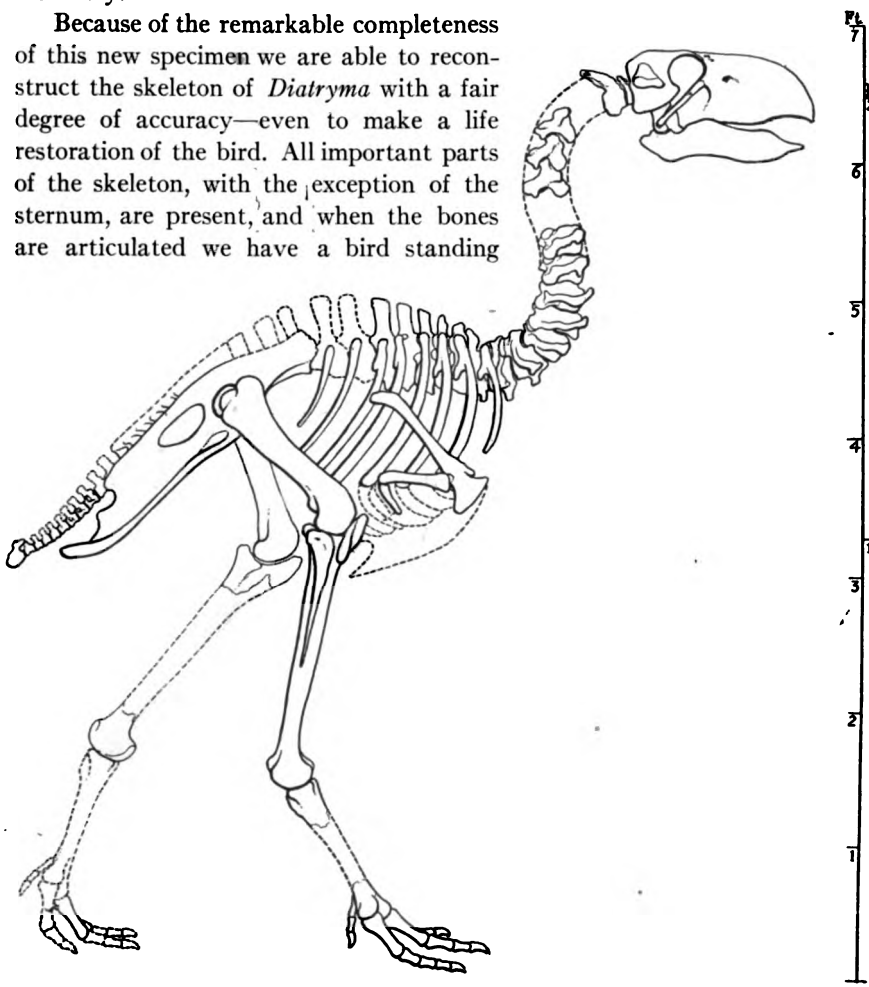
a few more pieces of the foot-bones of *Diatryma* of an apparently larger species than the southern one. This Dr. Shufeldt has called *Diatryma ajax*. Last summer, however, Mr. William Stein, one of the American Museum's trained fossil collectors, while searching a small and hitherto unexplored section of the fossil beds or 'badlands' of the Bighorn Basin in northwestern Wyoming came upon this magnificent new specimen which represents a third species and which has been named in honor of its discoverer, *Diatryma steini*.

The bones were found somewhat disorganized and were inbedded in a layer of soft bluish shale. Parts of both legs had been weathered out for some years and were lying on the surface, and it was the sight of these which led to the discovery.

Because of the remarkable completeness of this new specimen we are able to reconstruct the skeleton of *Diatryma* with a fair degree of accuracy—even to make a life restoration of the bird. All important parts of the skeleton, with the exception of the sternum, are present, and when the bones are articulated we have a bird standing



RECONSTRUCTED SKELETON OF DIATRYMA STEINI. × $\frac{1}{17}$
(Courtesy of the American Museum of Natural History)

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nearly 7 feet tall. The massive neck was surmounted by a great head 17 inches long with a powerful deep compressed beak and strong lower mandibles. The legs were of moderate length and stockily built, but the wings were reduced to a point where they could have been of but little use to the bird, even in running. Among living birds the Cassowary furnishes the closest parallel in wing reduction.

Diatryma has no near living relatives. The peculiar South American Seriema shows some general resemblances, especially in the skull and pelvis, but the Seriema is a smaller bird and has the power of flight. Of the living flightless birds, the Ostriches, Rheas, and Cassowaries, there is a similarity in the reduced wings but there the resemblance stops. Among the extinct birds the Patagonian *Phororhachos* with its small wings and large powerful skull resembles *Diatryma* both in size and proportions, but a careful comparison of the two shows that this resemblance is merely a superficial one and that there is no true relationship. *Gastornis* found near Rheims in northern France in deposits of nearly the same age as those in which *Diatryma* was found, may be distantly related, but as *Gastornis* is known only from scattered and fragmentary bones, it is not possible to make satisfactory comparisons. *Diatryma* then stands pretty much by itself in the bird world, and we know nothing of its ancestry or its descendants. It is probable that it became extinct during the Eocene period, along with several contemporary groups of mammals. Of its range it can only be said that it lived in New Mexico and Wyoming and possibly extended its range westward as far as the Pacific coast. The climate of the Rocky Mountain region during early Eocene times was warmer and more humid than now, and the mountains had not reached their present elevation. Of the bird-life of that time and in that region we know but little. The few bits of fossil birds found have been identified as Turkey, Grouse, and Eagle, and the like, but how closely they really resembled these modern birds to which they have been referred it is not possible to say until more complete skeletons are found.

The food habits of *Diatryma* are a matter of conjecture. The skull suggests that it was a flesh-eating bird but a glance at the feet shows small, weak claws hardly adapted to seizing or even holding prey of a size which the bird would be likely to feed upon. Also, it will be noted that the beak is not hooked at the tip as in most modern birds of prey. The beak may been have used in feeding upon large fruits or seeds after the manner of the Parrots. There is, in fact, a good deal of similarity in the structure of the skull between *Diatryma* and the Parrots, a resemblance which may have been brought about by similar food habits. Another suggestion which has been made is that *Diatryma* waded about in the shallow streams and fed upon the fresh-water clams which were abundant there, using the great beak to crack open the shells. Whatever his food habits, *Diatryma*, with his great size and powerful neck and head and strong beak, was undoubtedly the bird monarch of his time and, indeed, there were but few mammals of his day which would have cared to take issue with him.

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The Schuylkill Heronries

By F. L. BURNS, Berwyn, Pa

IT IS well known that the Black-crowned Night Heron returns year after year to the same breeding-place, and that the heronries are permanent if undisturbed. I believe that the colonies of the Schuylkill River region are of comparatively recent occurrence, since they were unknown to our earlier ornithologists, and Wilson and Audubon were very familiar with this ground. It would seem probable that the breaking up of the great tide-water colonies of the lower Delaware valley compelled this species to seek asylum inland; and the selection of isolated groves situated on rising ground, often at a considerable distance from any large stream or swamp, proves that even this apparently stupid bird has profited by experience. However, nesting early in April before the leaves have formed, it is at a distinct disadvantage in a deciduous wood.

Heronries containing over one hundred pairs of birds are unusual in this region for economic reasons. There is, of course, a limit to the feeding-range, probably of 15 miles radius in the breeding-season, and even then there must have been an overlapping in the hunting-grounds of the various colonies, since the extreme distance between the Fort Washington and Weisenburg colonies is only 40 miles. I am sure that some sort of communal leadership exists in every colony and an interrelationship of all the colonies of this region.

The first colony of which I have knowledge was located in a grove at the rear of the old encampment of Wayne's brigade, Valley Forge, Chester County. About 1870 a party of Norristown gunners slaughtered many of the breeding birds, and the site was abandoned; the survivors are said to have formed, or materially increased, a colony situated on the Skippack, just above its juncture with the Perkiomen Creek, near Evansburg, Montgomery County. Dr. W. E. Hughes visited it some time previous to 1880, Messrs. F. S. Rose and J. H. Wilson in 1885, and it was found in about the same place as late as 1892, though greatly reduced. Continued persecution had driven it further up the Perkiomen when Mr. R. C. Harlow found about twenty nests on the lower slope of Spring Mount near Zieglersville, in 1907, and it was deserted two years later.

Dr. Warren states, in 1888, that a colony existed for many years along a good-sized stream near Blue Rock, Berks County.

About 1886 Mr. D. N. McCadden and Dr. Hughes discovered two large colonies, scarcely a mile apart, in detached groves at Port Kennedy and Red Hill. I visited the former in 1900 and found about fifty nests in the tallest oak and chestnut trees. Every heronry seems compelled to support one or more families of thievish Crows, but this community for many years had a sort of feudal lord in the form of a Cooper's Hawk. No Heron would build near his nest, hence part of the nests were on the top and the remainder at the foot of the hill. I visited the locality on April 16, 1905, and counted fifty-seven nests, all

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inhabited; Mr. C. H. Rogers found but twenty nests with young on May 20; the following winter the timber was cut from this tract, and the birds formed a new colony the succeeding spring at Valley Forge.

The Red Hill colony contained ninety occupied nests in high ash, chestnut, oak and cherry trees on May 26, 1914, though someone had 'shot it up' on May 3, and there were dead birds found. A visit by some friends on June 20 revealed some twenty-five freshly killed adults, shot for their plumes by Italian quarrymen, and the survivors increased the Valley Forge colony the following year, though it is probable that they attempted to breed on the old grounds early in the season.

The Fort Washington colony of one hundred pairs normally was located on the eastern slope of Militia Hill, near the Wissahickon Creek, Montgomery County, in mixed chestnut timber. Mr. G. B. Benners first saw the birds at this place in 1892 and then continuously until 1902, when there were about twenty pairs. At this date he found dead birds lying around and the nests deserted, the work of three boys of rich and influential parents of the neighborhood. They had shot the birds as they flew from the nests and even pulled down many of the nests. Naturally this colony passed out of existence.

Probably the successor to the Blue Rock colony was located on the Sacony Creek near Weisenburg, Lehigh County. Mr. W. H. Leibelsperger writes me that it was a most pitiable sight when he and his friend approached it in May, 1904; the nests and eggs were wantonly destroyed and many of the poor birds slaughtered; only a few birds remained, and a single nest found 60 feet up in a pine contained heavily incubated eggs.

About three weeks later some fifty nests were discovered in a small tract of pine woods near Moselem, Berks County, probably the refugees of the Weisenburg colony.

The Valley Forge colony was founded in 1906 through the enforced removal of the Port Kennedy colony as previously mentioned. Situated in a thicket of saplings of 25 years' growth, I found thirty-five nests at an average height of less than 25 feet, on April 30, and a later visit convinced me they had had a successful season. May 30, 1907, there were twenty-seven new nests, and later in the season Mr. A. C. Redfield counted one hundred and fifty nests, presumably the accretion of the Perkiomen colony. During 1908 it was reported that the Italian laborers working nearby were carrying away bags of young for food. On April 20, 1909, a visit revealed about one hundred nests, not all occupied, and the birds appeared much harried. A visit by Messrs. Redfield and L. S. Pierson on May 9 found the thicket deserted. The birds had been constantly annoyed by Italian pot-hunters and well-meaning visitors. As late as August 8, 1910, I saw eight adults about the ground in an open pasture, waiting for some intruder to depart from the grove, where they were unsuccessfully attempting to nest; the wretched remnants of a promising colony of two years previous.

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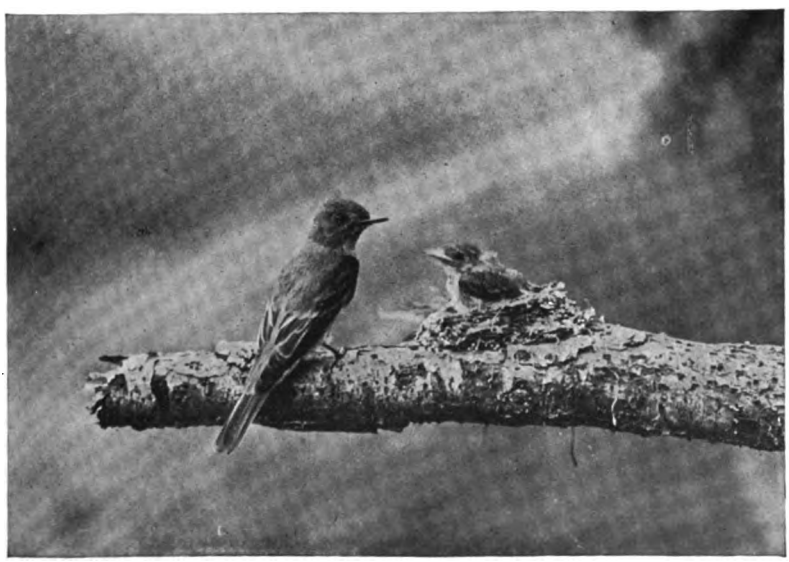
This colony doubtless united with the Red Hill colony, and the ground remained vacant until 1915 when I counted fifty-six nests, some yet with young, on August 18. My visits in 1916 were made on April 16, May 14, and 28, and July 3, one hundred and twenty-seven inhabited nests were found from 40 to 70 feet up in ash, oak, and cherry trees, and I am pleased to state that the birds had a very prosperous year. They were quite tame, and the only annoyance came from two pairs of Crows nesting in their midst. That they were living off of the Herons was amply proven by the twenty empty nests, the reduced average in a brood and the discovery of four young with their eyes pecked out. Another season I hope to destroy all the Crows' nests in the wood. However, there is no warden, and this fine colony, perhaps the last of its kind in all this region, is at the mercy of the first vicious person that may chance upon it, when it will become only a memory.

I would add a word of caution to bird-lovers when visiting heronries: Do not enter a colony until the leaves have formed a screen; enter at a point that will enable the birds to retire undisturbed to an unoccupied part of the wood; keep together, walk slowly, keep quiet, and do not stay long. Remember that the Crows are looking for a disturbance that will enable them to steal the eggs and young, and knowledge of the locality should be intrusted to the chosen few.



WOOD PEWEE, NEST AND YOUNG
Photographed by A. A. Allen, Ithaca, N. Y.

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Chronicles of a Hummingbird Family

By MINETTE SHERMAN, Glendale, Cal.

May 9, 1916.—My home is one of those vine-covered, flower-surrounded bungalows so prevalent in southern California. Enclosing the garden in the rear is a latticework fence over which roses and honeysuckle climb in wild confusion. Within are flowers, bees, and sunshine, and here dainty feathered people gather to eat of the crumbs and grain that we scatter.

This morning, when standing beneath a small pepper tree in the garden a tiny Hummingbird perched just 2 feet above my head. I noticed several long silken cobwebs stretched about the limb. I watched her come and go the rest of the day and knew that a nest was in progress.

At night the children and their father were told of our good fortune, and all were delighted.

May 10.—Early this morning before my sleeping world of people were awake, while the morning was still misty and heavy with earthy odors, I looked for the embryo nest and beheld it fast assuming proportions. As I started to leave, the little Hummingbird darted past with a tiny bit of down which she placed in the nest after which she sat upon it, squirming and shaping the inside with her body. The nest consists of gray cobwebs and fluffs from cat-tails, with occasional bits of lichen or tiny flecks of bark.

May 11.—How can I begin with today's happenings! In the first place the nest must be about half made.

While I was looking in it, she came with a long silken thread—some spider's web, no doubt—but upon seeing me so close, flew to a near by wire. In an instant another came, the male, and flew in violent circles about her. Over the garden fence she darted, poising herself in the air. The male flashed after her and with lightining-like rapidity whizzed back and forth before her "like a bronze pendulum."

I find this to be the Costa Hummingbird, one of the six species that nest within the borders of California.

This afternoon I went out to see how the work was progressing, when a rush of wings announced another bird. This proved to be an English Sparrow. Mrs. Hummer immediately flew at the intruder, chasing her about in the tree quite merrily until the Sparrow became angry and turned upon her. Clinging quietly to a limb, she opened her bill and said as plainly as possible, "Ah, is it your tree, Mrs. Hummer! Ha! ha! I must go away! You are mistaken, my dear friend, I shall not depart until I am ready." Mrs. Hummer observing that the Sparrow no longer feared her, went on with her work while the Sparrow flew away. I passed into the house, chuckling over the encounter and admiring the bravery of the little sprite in attempting to drive away the larger bird.

In about ten minutes I came out again and glancing up into the tree saw what I supposed was Madame at work again. But upon looking more care-

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fully I discovered it to be that little vixen of a Sparrow standing in the nest tearing out huge billfuls right and left. What an outrage! What will the Humingbird do when she returns and discovers this vandalism?

She soon appeared, settled on her nest, and began to work as though nothing had happened.

May 12.—This morning, early, before the others were awake, I went out to investigate, and in peeping into the nest discovered an egg. It is pure white and so thin and delicate that it seems translucent.

May 14.—This morning the nest contained two eggs.

May 16.—Wishing to make a sketch of her, I stood on a chair, but as I raised up over the nest she flew off and whirred about me. I stood very still and she came back giving me an opportunity to sketch her at close range.

May 19.—Just a week ago the first egg was laid. She has constantly added to the nest since then, making it noticeably deeper. Today I stood on the chair as before. This time she remained quietly on the nest. The children and their father came also to see our little friend. I had a fancy to try an experiment such as I had read of some bird-lovers doing. Carefully sliding my hand along the limb until I reached the nest, I placed two fingers on her back and *stroked her feathers.*

May 28.—This morning I beheld the first little fledgling—a tiny naked object no larger than a honey-bee. The little creature is blackish in color and entirely naked except for eight tiny hairs on each side of its backbone. The head is large and moves from side to side; the bill is yellow and short, and on each side of the head are black skinny knobs for eyes.

May 29.—Two tiny bits of bird-life are inclosed in the miniature nest—two little babies wabbling their grotesque heads about. I hoped to see them fed when the mother returned, but when she saw me she became nervous and brooded them instead. I walked away, pretending not to notice. She flew to the honeysuckle vines, and I came back quietly. Returning, she alighted on the side of the nest and fed them from her bill by what the naturalists call regurgitation. They opened their bills very wide, and she rammed hers down their throats, ejecting by a convulsive effort partly digested honey and insects from her own throat. I could see only the babies' bills above the rim of the nest. After each had had a morsel, she brooded them in lieu of rocking them to sleep.

May 31.—It is astonishing how they grow; in two days they have doubled in size.

June 3.—Their bills are turning black, pin-feathers are showing all over them, and an opening of the eye is visible.

June 6.—This morning at about 11 o'clock was the last time I had noticed the mother bird. Early in the afternoon the children came from upstairs, excitedly calling me to come quickly and see a dead Hummingbird caught in the screen. It must either have been unaware of the screen in its flight, or in an attempt to catch insects had fastened its bill in the meshes. Was this

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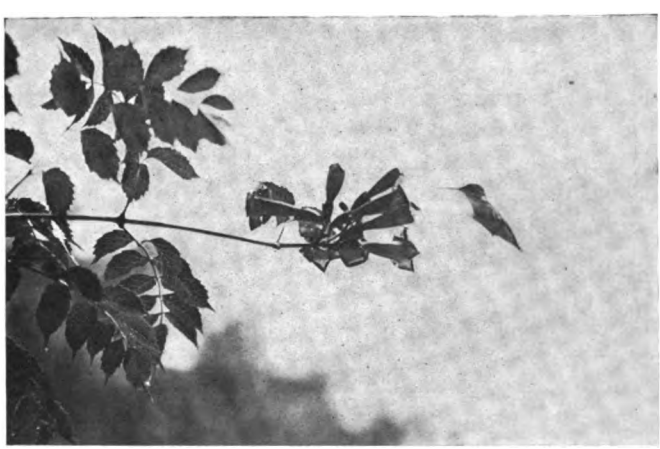
our Hummingbird and what would become of those poor helpless babes? Throughout the day we kept a vigilant outlook about the nest, hoping for the return of the little mother. Giving up in despair, I tried to feed them myself. Preparing some honey and warm water, I tried to force it down their throats, but they shook their heads and would have none of it. Suddenly I heard a whir of little wings, and from over my head flashed their own mother. Words cannot express my relief.

June 13.—They are now entirely covered with feathers, the green showing faintly on their backs, the wings mottled brown and gray, with three white tail-feathers on each side of the little tail.

June 18.—Yesterday at about 5 o'clock in the afternoon, I peered into the nest and found one nearly out. As I watched, it flew into the topmost twig of the tree and from there to the honeysuckle vine. I approached, carefully putting my hand over it, but it clung so tenaciously that I had to tear from the vine the twig upon which it rested. I carried it in my hands to show to the children. When I tried to put it back it held so tightly to my hand that I was afraid I might injure the little claws in pulling it away. Just when I thought I had the fly-a-way one in the nest with his more peaceful brother, off he flew again into the top of the tree. When I retired for the night he was still there. This morning we could not find him. The other one was perched on the edge of the nest, ready for flight.

June 20.—Yesterday both left the nest. They have become very fluffy and almost as large as their mother but their bills are shorter and the underparts pure white.

June 21.—The pepper tree is deserted; the nest old and forlorn. What a wonderful experience my acquaintance with these feathered people has been! How I shall miss them from my garden!



RUBY-THROATED HUMMINGBIRD
Photographed by A. A. Allen, Ithaca, N. Y.

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Notes from Field and Study

Seventeen Warblers in a Single Willow Tree

Spring and the migration were extraordinarily late this year in Pittsfield, Mass. Until May 18 only April birds—not one species typical of May—was seen by the writer. On that day and the following the usual arrivals of May's first two weeks flooded in, and Sunday, the 20th, came warm but cloudy, promising a high tide of Warblers. About 9 A.M. the writer was standing by a bridge over the dirty little river, with mills above and mills below and trolleys clanging by, where a great willow tree sloped out over the surface. Swifts and Swallows were darting low over the water, Grackles, Robins and Song Sparrows hunted along its banks, an Oriole and a Downy Woodpecker were heard overhead, and the voices of a Catbird and a Yellow-throated Vireo were not remote; but in the tree itself sparkled a Warbler treasure! First, a number of Northern Parulas were noted; in the same instant Chestnut-sides and Myrtles were seen to be almost equally numerous; and then several Black-throated Greens appeared. Only the two first-named were making any sound; the gray weather seemed to take away the spirit of song, recompensing us by keeping the Warblers low in the leafless but catkin-veiled tree. The fifth species seen was a dun little thing, with a faint flush of yellow on her throat and absolutely no other insignia anywhere. While the idea 'Tennessee?' was still but half-formed—for the writer had never before seen a Tennessee Warbler—a sixth guest fluttered down, clinging to the bark. Pulse leapt in arteries, for here at last was a Warbler the observer had fervently sought each May for fifteen years till it had become a symbol for the unattainably rare—a Cape May! Nothing could have given more delight; but while avid eyes were watching, a flash of gold brought down a gorgeous Blackburnian, a necklace of black diamonds almost tinkled 'Canadian,' and two black-and-salmon male Redstarts scintillated into the tree. For a few minutes the onlooker revelled amid these riches. Then a wiry song heralded the creeping approach of a Black-and-White, and a Magnolia also twinkled into view. Suddenly a Blackpoll emerged directly under him, and then a Yellow Warbler, flying upstream, paused an instant in the tree. This was unbelievable! Thirteen Warblers in as many minutes in a single tree in such a site? Wasn't it hallucination? One had but to imagine a Warbler, and lo! he was at hand! And now came a wheezy 'song' preluding a handsome Black-throated Blue. The Chestnut-sides and Parulas were now swarming in the scanty bushes at the willow's base. We looked down, and rubbed our eyes: a Bay-breast—one lone plump ruddy male Bay-breast! Then flitted in and out an ever-agile Wilson's Black-cap; and lastly up peered the black mask of a Northern Yellowthroat. Besides these seventeen Warblers the tree held for a while a Warbling Vireo. Save the three species first noted, none was represented by many individuals. The tree looked like nothing so much as a bird-chart by the Massachusetts Audubon Society illustrating the May Warblers of Massachusetts, so vividly alive was its close-bounded area with these clear-marked, brilliant transients, so long halted by the cold and now pouring northward in compact flocks—seventeen species to a flock!—and eddying through a single city willow on the way.—SAMUEL A. ELIOT, JR., *Pittsfield, Mass.*

Warbler Notes from Bennington, Vt.

In regard to R. E. Robbins' query in the March–April BIRD-LORE concerning the increase in the number of Cape May Warblers, our observations, which are

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limited to Bennington, Vt., and vicinity, have been as follows: From 1901 to 1911 inclusive, not a single individual of the species was seen; in 1912, a dead male was found on May 8, and a pair was seen daily from May 16 to May 22; in 1913, a pair was seen on May 13, and for two or three days after; in 1914, a pair was seen on May 6; in 1915, a pair was seen on May 16 and several individuals during the following week; in 1916, one was seen May 5 and eight to ten the following week.

The Tennessee Warbler has shown a like increase during the last two years. From 1901 to 1914 inclusive, only one inidvidual was seen (May 11, 1912). In 1915, there was a large migration beginning May 20 and ending May 26. During the last two days of this migration, a large number were in the village, frequenting almost entirely the elm trees. In 1916, there was another large migration, beginning May 19 and ending May 30. During both these migrations, the birds were singing a great deal. The song of the Tennessee Warbler is a loud one—as loud if not louder than the Redstart's. He starts with a repetition of notes like the Chestnut-sided. After three or four, he gives a hitch in the song and then continues but on a different note and not quite so loud. Or it might be described as similar to the Chipping Sparrow's; but shriller.

Two other species of Warblers have shown a marked increase in this vicinity during the last two or three years, namely, the Bay-breasted and the Wilson.

The Evening Grosbeak has visited this neighborhood again this past winter.

On October 7, 1916, we saw a flock of White-winged Crossbills—numbering over 40—on Stratton Mountain, which is a peak in southwestern Vermont.—Dr. and Mrs. Lucretius H. Ross, *Bennington, Vt.*

An Evening Grosbeak Summers in New Hampshire

About the middle of August, 1916, Miss Emma Johnson, of Nashua, N. H., noticed, one morning, a peculiar bird feeding upon the seeds of a lilac bush just below her window. As it was an entirely new bird to her, she got her field-glasses and watched it for at least fifteen minutes. There could be no doubt about its being a male Evening Grosbeak. There was the great beak, the bright yellow on head and body, the black wings and tail, and the large white wing-patches. The lilacs were close to the house, and every marking on the bird was plainly visible without the glasses. The bird did not return again. Miss Johnson is a close observer and could not have been mistaken.

This bird may have been injured and left behind or it may have found New Hampshire to its liking and decided to become a permanent resident, as some of us featherless bipeds have. A report has come from Hanover that a pair of these birds once started a nest near that town but left it unfinished to migrate with the flock. This report is rather vague but entirely credible. The bird observed by Miss Johnson may have had a mate, and they may have nested hereabouts. At any rate, it will be well for bird students to keep their eyes wide open and watch the Evening Grosbeaks. If these birds should begin to nest in New England they would be a great acquisition. Has not the Prairie Horned Lark worked eastward until it has reached New Hampshire and become a permanent resident? If we can hold the Grosbeaks at our food stations late enough in the spring, perhaps the breeding instinct will seize upon them before the migrating instinct, and they might remain and breed. The coniferous forests of northern New England offer ideal nesting facilities.—Manley B. Townsend, *Nashua, N. H.*

Evening Grosbeak in Connecticut in May

While looking for birds near North Branford, Conn., in a sparsely settled district, our attention was attracted by a persistent chirping which resembled that of an English Sparrow but was clearer and

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higher pitched. Upon investigation we found it came from a flock of fourteen Evening Grosbeaks. When we first saw them they were feeding on the ground near the edge of a field, but a little later they flew to a sugar maple where they allowed us to observe them closely. There were about five males in the flock.

This species has not been observed in New Haven County to our knowledge, so late in the season (May 12).—RICHARD EDES HARRISON and JOHN B. DERBY, *New Haven, Conn.*

Horned Larks at Rochester

I have seen in BIRD-LORE notes on the Horned Lark in winter at Troy, N. Y., and on the Prairie Horned Lark in summer in Nebraska. Here in Rochester, N. Y., we have the Prairie Horned Lark all the year round. On March 10, 1916, when we were having the worst part of our winter, I saw two of the birds on the snow and ice while I was skating on the eastern widewaters of the Erie Canal. On April 2, I saw one bird and found its nest with four young in it on the well-kept slopes of Cobbs Hill reservoir, which supplies part of the city with water. The nest was made of just a few pieces of grass woven together on the ground and was within a quarter of a mile of the widewaters.

Again, on October 18, I saw two of the Larks back of the reservoir. They were on a short, level stretch of gravelly soil where there was little grass. I did not see them until I started them from the ground, but they could be easily recognized by the combination of their size, white tail feathers, swift flight and sweet notes. The Prairie Horned Lark has been on the bird-list of the Rochester Park Department almost every month of the year.—RAYMOND REUTER, *Rochester, N. Y.*

A Painted Bunting in Pennsylvania

Miss Esther Heacock writes from Wyncote, in southeastern Pennsylvania, of the visit of a Painted Bunting, which spent two days, May 13 and 14, 1916, in or near a large fern-leaved beech tree on her lawn. "The bird appeared at first in company with some Indigo Buntings feeding upon the ground. The Indigo birds soon passed on, however, leaving their cousin alone but seemingly very much at home and unafraid. Telephone-bells rang and word was passed around among the members of the Wyncote Bird Club, many of whom came to see the rare and beautiful bird."

Vermont Notes

The observations concerning the Juncos and the White-throated Sparrows reported by Eliza F. Miller in Sept.–Oct. (1915) BIRD-LORE interested us very much, for we had noted similar conditions.

Heretofore, in this neighborhood, these two species have nested and spent the summer in the mountains, never coming to a lower altitude than 1,000 feet and rarely below 1,500 feet. But during the summer of 1915, Juncos were seen at various points in the valley all summer, and on June 27 a pair was found nesting in a dooryard near the edge of the village at an altitude of about 700 feet.

A large number of White-throated Sparrows, taking possession of a hill not over 900 feet in altitude and 2 miles from the foot of the mountains, remained there all summer singing and nesting.

We also noted two pairs of Canadian Warblers nesting at 1,000 feet, which is 500 feet lower than we have ever found them nesting before.

We laid this change in the habits of these birds to the extreme coolness of the summer in this region.

Another unusual event with us was a migration of the Tennessee Warbler which occurred from May 20 to May 26, 1915, inclusive. This Warbler has been observed here but once in the past fifteen years, and at that time only a single individual was seen.

These birds seemed to prefer the tops of the deciduous trees and were singing con-

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stantly. The song is a loud one—as loud, if not louder, than the Redstart's. It starts with a repetition of notes like the Chestnut-sided but after three or four repetitions gives a sort of hitch and then continues as before but on a different note and not quite so loud. One observer likened the song to that of the Chipping Sparrow with a hitch in the middle.—DR. and MRS. LUCRETIUS H. ROSS, *Bennington, Vt.*

Florida Gallinule in Connecticut in April

On Friday, April 21, 1916, I received a telephone message from a friend in Hartford saying that he had observed a peculiar bird in his yard with its head caught in the lattice work of the veranda. It was immediately liberated, but again it sought protection in a similar manner. From the telephoned description, it was fairly clear that the bird must be one of the Gallinules, but it was rather difficult to imagine for a moment its mission in a place so remote from its natural habitat. I was invited to take possession of the bird and to exhibit it to some of the local bird-students before restoring it to freedom. I took it home and kept it for twenty-four hours, during which period several members of The Hartford Bird Study Club eyed it with much satisfaction. Not being able to cater to its tastes, I liberated it in a favorable spot.

The bird proved to be a beautiful adult Florida Gallinule. According to Bulletin 201 of our State Geological and Natural History Survey, it has never been recorded in Connecticut in the spring, the only summer record being in New Haven in June, 1899, although several autumn records for the state are available.—ARTHUR G. POWERS, *West Hartford, Conn.*

Red-bellied Woodpecker in Iowa

A few days ago a male Red-bellied Woodpecker was observed for the first time in this locality. While it may be possible, of course, that an occasional individual of the species visits western Iowa, careful observation of both summer and winter birds has never revealed one before, and the occurrence may be of interest to other readers. Since first observed he has appeared every day at our suet-bags, affording us ample opportunity to confirm the identification as well as the pleasure of studying his beautiful plumage. —T. H. WHITNEY, *Atlantic, Iowa*, April 20, 1917.

Snowy Owls in Idaho

A very remarkable flight of Snowy Arctic Owls occurred in southern Idaho the past winter. The first specimen the writer observed was on November 23, 1916. It was remarkably tame at first. I approached within twenty or twenty-five feet of it, and it did not fly. When I tried to photograph it, however, it soon became quite shy. This Owl (presumably the same one) stayed in the vicinity of the writer's home all winter, so it is believed. The last time I saw it, however, was on December 30. Twice I prevented farmers from killing this very beautiful and valuable bird. Reports of Snowy Owls were common during the winter. One firm in Boise mounted no less than thirty-five specimens. The Owls were reported retreating northward about Feb. 9.—ALEX. STALKER, *Meridian, Idaho.*

A Song from the Nest

Just at the entrance to one of the large ranches near Pasadena, I heard a particularly rich, sweet song, so wandered up among the plows and harrows, under a fine group of oaks, and finally ascertained that my songster must be in a sapling well out of sight of the road. After a time and no end of dodging and searching, I located a tiny, slim, olive-gray bird, with buffy sides to the head, white underparts shaded with yellow and a distinct white stripe through the eye. It was a Warbling Vireo and oh! how he did sing! A glorious, rippling melody, just bubbling over with joy and pride. I could not have believed that such a volume of

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sound could come from so small a bird if I had not seen him at it.

After a time he disappeared, but soon after returned with a fine beakful of food. Evidently he was very anxious that I should not see him go to his nest, for he dodged here, there, and everywhere, and although it did not seem to me that I took my eyes off him for a second, I suddenly missed him and knew not where he had gone. By dint of patience I found him again, or rather his head and shoulders, and as I particularly wanted to see his wing-markings, I cautiously moved a little nearer and found that he was singing while sitting on his nest. It was the funniest thing to watch him. He would half lift himself up and pour forth a joyful burst of song, then snuggle down almost out of sight, then raise himself up to sing again, and so on, till Mrs. Vireo came back to take his place. After allowing himself a long rapturous song from a high bough, he flew off in search of food once more.

The nest was a beautiful little thing, so neat and compact, semi-pensile from the fork of a branch, about 12 feet from the ground and well in sight. It was made of bits of leaves, lichens and vegetable fibers, and matched the surrounding branches so well that although I knew exactly where it was I often had trouble to locate it on subsequent visits.—HENRIETTA E. DELAMARE, *Pasadena, Cal.*

A Practical Bird-Bath

Anyone desiring an attractive bird-bath in the garden may have it at very little expense if the following directions are carried out: Excavate a place in the ground thirty-six inches in diameter and 2½ inches deep in the center, with gradual slope to the sides. Make a mortar, using ten pounds of Portland cement, three times the quantity of sand and enough water to mix easily. Pour into hollow, shape with trowel or the hand until it covers smoothly the entire surface. Dust lightly with dry cement and let it stand for several days before filling

A PRACTICAL BIRD-BATH

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with water. Many changes and additions may be worked out, starting with this simple plan. Last summer I added to mine a narrow run-way ending in a small basin 3 inches deep and 6 inches in diameter. The larger birds, like the Robin, Flicker, and Grackle loved to sit in this basin after bathing in larger ones.

Five minutes' work each morning with garden hose and broom will keep the bath clean. In hot weather I let the water drip in it all day, hiding the hose in shrubbery which, when planted around the edges, adds greatly to the beauty of bath.

Do not plant anything higher than 5 or 6 inches or you will have a hiding-place for cats. Violets, hepaticas, dwarf sweet alyssum and low-growing ferns are nice for the purpose.—MAY S. DANNER, *Canton, Ohio*,

Dressed in White

While at my country home in Monroe County, W. Va., this summer, I had the interesting experience of seeing something rare in bird-life.

It was nearly dusk one July evening and I was strolling in the yard when a white bird flitted past me.

I knew there were no Pigeons in the neighborhood, and, besides, the bird was smaller than a Pigeon.

It puzzled me. I followed it with my eyes until it alighted in a low tree in the orchard, but when I drew near the dividing-fence for a closer view, it flew out of sight amid the shrubbery.

About a month later I saw it again, as I went after my mail. It was sitting on the fence near the mail-box. A dozen or more Robins were on the fence and ground. As I approached, all flew across the road into the meadow. I cautiously peered over the fence, and there was my white bird, hopping about among his mates, head cocked to one side in the listening attitude of our old friend, the Robin.

I even heard his cheerful Robin chirp. In size and shape he was like the rest, but if there was a single dark feather in his plumage, I failed to detect it, so I think I saw that uncommon bird, a snow-white Robin.—(Miss) LENA LEOTI JOHNSON, *Covington, Ky.*

A White Swallow

I am writing to inform you of a bird which was observed here several times during the last week of July, 1916. Three other men and myself observed it July 29, 1916. It was apparently a white Barn Swallow. It was with other Barn Swallows, chasing over hay meadows. It had the size, shape, actions and general characteristics of Barn Swallows, but was pure white, except its bill, which showed dark as it flew. The other Swallows seemed at times to chase it, then at other times it flew among them unnoticed. It is the only pure white bird ever seen by many in this town.—R. T. BURDICK, *Crown Point, N. Y.*

An Albino Grackle

About noon one day the middle of this month, my friend, Mrs. Pound, heard an unusual fussing among the birds in her back yard. Her home is right in town, not more than three blocks from the business section, but she has a lot with trees, shrubs, and flowers in the back yard.

Coming out, she found four of the ordinary Bronzed Grackles in one of the trees, and one exactly like the others except that he had two white feathers, one on either side of the tail, about the middle. The other Grackles were not fighting him especially, but were very evidently curious and anxious to find out about the strange bird, and all of them, including the white-feathered one, kept repeating their metallic calls with rather more emphasis than usual.

We have seen entirely white or albino Grackles in the outskirts of town, but this is the first reported around here having just the two white feathers in the tail.—LILLIAN S. LOVELAND, *Lincoln, Neb.*

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THE SEASON

II. April 1 to June 15, 1917

BOSTON REGION.—April was abnormally cold; snow fell on the 9th and the temperature remained below freezing for thirty-six hours. Juncos were present in thousands and Fox Sparrows in hundreds, delayed by the storm for three or four days. After their departure there was little evidence of migration for ten days, until forty-eight hours of mild weather on the 21st and 22d brought Barn Swallows and Myrtle Warblers (early) and Field and Chipping Sparrows (late). Again there was practically no movement of birds for two weeks. A marked increase of White-throated Sparrows was noted May 6, after which came only scattered new arrivals until the 16th, when overdue residents (e. g., Swifts and Oven-birds) began to appear in good numbers.

Thus far cold and rainy weather had prevented a general migration of any magnitude. The trees were nearly bare, the vegetation over ten days later than normal. Birds had appeared in *small numbers, much behindhand*, and had been *silent*. Even the nesting Robins had sung little. The swamps, woods, and scrub-land were nearly barren of bird-life. Migrants were noted locally, in small flocks, feeding silently, low in the leafless trees, and often on the ground.

On the establishment of summer weather (May 18-20) there came a rush of Warblers in the normal manner—in full song and well distributed. In spite of cooler and rainy weather, this influx of Warblers, comprising the transients, continued into the first week of June and proved the most remarkable Warbler-migration in the history of this region. It was remarkable for the exceptionally late dates to which many birds tarried, for the great number of birds, and especially for certain rare Warblers in numbers actually and proportionally far above previous records. Every day for two weeks one of our rarest, the Tennessee, was abundant; a dozen or more were frequently seen collected in some favorable locality and their song was heard throughout Lexington and surrounding towns until June 8. Cape May and Bay-breasted Warblers, usually rare, occurred commonly, although less so than the Tennessee.

A few Evening Grosbeaks lingered in Lexington till May 30, Juncos till the 22d, and there was a definite migration of Pine Siskins between May 20 and June 4. During the first few days of June our breeding Cedar Waxwings arrived. Parula and Black-poll Warblers are reported from West Roxbury on June 15—exceptionally late.—WINSOR M. TYLER, Lexington, Mass.

NEW YORK CITY REGION.—April started with the migration about up-to-date or a bit ahead (e. g., Great Blue Heron and Pine Warbler, Runyon, N. J., April 1), but the failure of Tree Swallows, Yellow Palm Warblers, etc., to reach anything like their usual abundance till toward the end of the month indicated a tardy arrival of insectivorous species. The daily mean temperature of the first twelve days of May averaged 10° below normal, so that a 20-mile walk near Plainfield, N. J., on the 13th, over a route good for a hundred species at the height of the spring migration (normally about this date), netted barely eighty-six, and these included the following birds usually gone northward by this time: Rusty Blackbird, Junco, Yellow Palm Warbler, Ruby-crowned Kinglet, Sapsucker, Siskin (another next day), and Savannah Sparrow—all but the last three (one each) represented by at least ten individuals. Furthermore, there were many more Blue Jays and White-throated Sparrows than usual so late, and Chipping Sparrows and Barn Swallows, of which few if any but breeding individuals are normally here at this date, were still present in flocks. And of the following species, all of which should have been well represented

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and many of them very common, not an individual was noted: Kingbird, Crested Flycatcher, Wood Pewee, Rose-breasted Grosbeak, Indigo Bunting, Scarlet Tanager, Red-eyed and Yellow-throated Vireos, and Cape May, Bay-breasted, Black-poll, Blackburnian and Canada Warblers; of still others there were but one or two lonely specimens. Toward the end of the week a heavy movement set in, and observers agree that the height of this spring's migration was on May 19 (96 species were noted by Mr. A. A. Saunders at Norwalk, Conn., on this day), but there must have been a general departure that night, as few transients were present next morning. A hardly less notable wave followed which lasted at least over Decoration Day when 250 Barn Swallows, a Tennessee Warbler, and other Warblers and other transient land-birds were seen at Long Beach, L. I., as well as 1,200 shore-birds of ten species, including sixteen White-rumped Sandpipers. On the 26th and 27th Mr. J. T. Nichols and the writer noted, without special effort, ninety-two species at Mastic, L. I.—one flock contained eighteen species of Warblers besides other birds. Mr. Saunders gives the following Norwalk dates among those later than previously known from Connecticut: Sapsucker, May 13; Rusty Blackbird, May 15; Golden-crowned Kinglet, May 16; Junco, May 17; Ruby-crowned Kinglet, May 18; Blue-headed Vireo, May 24; Siskin, May 26; Savannah Sparrow, May 26; Magnolia, Bay-breasted and Blackburnian Warblers, June 2; Canada Warbler, June 3; Tennessee Warbler, June 9; Black-poll Warbler, June 10. Tennessee and Bay-breasted Warblers were remarkably common about New York City this spring, and the Cape May was up to its standard of recent years.—CHARLES H. ROGERS, American Museum of Natural History, *New York City*.

PHILADELPHIA REGION.—April weather being normal, most migrants arrived on time. An early Wood Thrush was noted at Haverford, Pa., by Mr. Wm. L. Baily on April 19, and a rather early House Wren was seen at Beverly, N. J., on April 20. These birds usually arrive about a week later. Good-sized flocks of Black Ducks and an increasing number of Wood Ducks were reported at various points. A fine flight of Greater Yellow-legs was observed along the Delaware River. These birds are apparently increasing. The latest reports of Evening Grosbeaks that I have are: Reading, Pa., April 22, Miss Anna P. Deeter; Mt. Holly, N. J., April 26, Mr. N. D. W. Pumyea; Yardville, N. J., May 7, Mr. C. H. Rogers. A Blue-gray Gnatcatcher was reported by Mr. Geo. Spencer Morris at Wenonah, N. J., April 2.

Cold and rainy weather brought us the most unseasonable May in ten years, and while some of the migrants were on time, certainly the bulk of the Warblers and Thrushes arrived from a week to ten days late and seemed very loath to leave; others came crowding in and a congested migration resulted. Between the 20th and 30th of May the woods were alive with birds, mostly Warblers. Of the rarer species, Golden-winged, Wilson's, Cape May, Bay-breasted and Tennessee Warblers were seen at numerous stations. The Tennessee was especially common and its loud Chipping-sparrow-like song was heard on village streets; this Warbler has been rarely noted about here in the spring. About the middle of May a remarkable invasion of White-crowned Sparrows occurred: flock of twenty-four, Reading, Pa., May 17, Miss Anna Deeter; flock of fifty, West Chester, Pa., Dr. C. E. Ehinger; many smaller flocks reported. Some occupied the lawns during their short stay and fed mostly on dandelion seeds.

On Decoration Day seven members of the D. V. O. C. walked together from Riverton to Camden, N. J., and recorded eighty-two species, including seventeen transient species, few, if any, of which are normally here so late in the month. Among them were Herring Gull, Black Tern, and Tennessee, Bay-breasted and Wilson's Warblers.

Doubtless the birds suffered because of the unseasonable weather, for numbers

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were reported found dead or dying, some very much emaciated.

The second week in June (Black-poll Warbler, June 9 and 11, Crosswicks, N. J. —Mr. C. H. Rogers) saw the end of the migration, which was the longest drawn out, in many respects the most interesting ever witnessed in this vicinity.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—April and May showed a continuance of the peculiar conditions of March. The migration as a whole proved to be exceedingly interesting and furnished many unusual records. Notwithstanding the cold weather, which, excepting for a few days, continued throughout the entire period of migration, a number of early migrants arrived ahead of time, several of them earlier than previously recorded. Among these may be mentioned the following (the dates in parentheses representing their earliest previous records): The Indigo Bunting, April 22 (April 25, 1908); Yellow-breasted Chat, April 14 (April 16, 1876); Blue-winged Warbler, April 24 (April 26, 1891); Northern Water-Thrush, April 21 (April 22, 1894); Rose-breasted Grosbeak, April 29 (May 1, 1907); Whip-poor-will, April 1 (April 8, 1909) and the Greater Yellowlegs, April 8 (April 19, 1887).

All the Swallows, except the Bank Swallow, arrived about a week ahead of their usual time, and many other species several days in advance of the average. On the other hand, a number of species, particularly the late migrants, were very much behind time, showing thus the great irregularity of this year's migration. For example, the Yellow-billed Cuckoo and the Black-billed Cuckoo came on May 11, four days late; Ruby-throated Hummingbird, May 11, ten days late; Warbling Vireo, May 11, ten days late; Nighthawk, May 11, eight days late; Bay-breasted Warbler, May 17, six days late; Yellow-bellied Flycatcher, May 24, ten days late.

The first appearance of most of the species that arrived ahead of time, as well as of other common birds that arrived about as usual were, however, represented by one or two, or at most, a few individuals, and the bulk of the species was considerably delayed in arriving.

Evidently influenced by the unseasonably cool weather, the winter residents and migrants remained much later than usual, in many instances far beyond any previously known record, and at the present writing (May 31) many migrants are still here. Some of the most interesting are as follows, the date in parentheses indicating, as before, the latest known previous occurrence: Bufflehead, April 15 (April 10, 1859); Ring-necked Duck, April 11 (March 13, 1842); Goldeneye, May 20 (April 1, 1859); Lesser Yellowlegs, May 17 (May 1, 1900); Red-backed Sandpiper, May 12 (April 22, 1887); Herring Gull, May 20 (May 10, 1887); Ring-billed Gull, May 20 (April 28, 1887); Sora, May 20 (May 5, 1900); Swamp Sparrow, May 27 (May 19, 1859).

A number of birds of rare occurrence about Washington made their appearance during April and May, among them the Double-crested Cormorant, seen on several days in May, the latest by Mr. L. D. Miner on May 20; the Laughing Gull, seen on May 20; the Black Tern, seen on May 17 and on several earlier dates; the Caspian Tern, noted on May 20 and several earlier dates; the Common Tern, on May 20 and 26 and on several earlier dates; the Northern Pileated Woodpecker, seen on April 13; the Red-backed Sandpiper, seen May 12; the Little Blue Heron seen by Mr. William Palmer at Miller, Va., in May; and the Prothonotary Warbler, seen on May 13, at Falls Church, Va., by Mr. I. N. Gabrielson.

Furthermore, a number of species, including several of more or less uncommon occurrence in this region, have been unusually numerous this spring. Such are the Yellow-bellied Flycatcher, White-crowned Sparrow, Northern Water-Thrush and Blue-winged, Black-throated Green, Cape May, Bay-breasted, Mourning and Tennessee Warblers.

Birds as a whole were this spring rather unusually abundant, and this, in combination with the large number of exceptional occurrences and late records, make the

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migration a memorable one in our local ornithological annals.—HARRY C. OBERHOLSER, Biological Survey, *Washington, D. C.*

OBERLIN REGION.—All records were broken for lateness and for the scattering character of the migration for April and May. There was a small movement—ten species—on April 3 and 4. From the 16th to the 22nd there were daily arrivals of from three to five species, and from then to the first of May they filtered in one at a time, with three on the 25th and 29th, and four on the 30th. On May 7 there were seventeen moving species. On the 13th, 14th and 15th, five, nineteen and eleven species respectively were moving, and on the 16th, six. This constituted the largest migration wave of the season. From the 18th to the 22nd, thirty-seven species were moving, with scattering movements each day until the 29th, when twenty species moved, most of them records of departure. Late Warblers and Thrushes were recorded on June 5.

The most notable feature of this season of migration was the mortality among the more strictly insectivorous birds. The first Purple Martins came on April 2. After about a week of fair weather there came nearly a week of rain and cold which caused the death of nearly all of them. Many were picked up dead or dying on the ground beneath the houses, others died within. All were hardly more than skeletons. Another lot arrived on the 14th and shared the same fate. Barn and Tree Swallows came with this flight, and while more of them survived, some were starved to death. A third Martin arrival occured on the 24th. Apparently these were wiser, for their numbers fluctuated with the weather. It appeared that they returned southward for brief periods during the unfavorable weather.

Among the smaller birds, the Yellow-throated Vireo and Oven-bird seemed to be the greatest sufferers; more were found dead or dying from starvation than of any other species. It is not possible to give any reliable estimate of the extent of the destruction of the smaller birds. All one can say is that more dead birds were found this spring than have been found in the six previous years.—LYNDS JONES, *Oberlin, Ohio.*

TOWHEE FEEDING YOUNG
Photographed by Avis Criss, Amsterdam, N. Y.

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Book News and Reviews

PETS: THEIR HISTORY AND CARE. By LEE S. CRANDALL, Assistant Curator of Birds, New York Zoölogical Park. Henry Holt & Co., New York. 12mo. XII + 372 pages, numerous illustrations.

Mr. Crandall's book treats of Mammals, Birds, Reptiles and Batrachians, and the Aquarium. "Every normal child," he writes, "of whatever race or creed, is born with an innate love of wild things. If allowed to languish from lack of intelligent parental interest and supervision, this natural instinct is gradually lost or degenerates into unintentional cruelty of ignorance. Properly fostered and developed, it is certain to exert a beneficent influence on the trend of developing character. . . . The sterling qualities of kindness, responsibility and regularity are acquired, and many of the problems which perplex the adolescent adjust themselves normally by constant contact with reproductive life."

This is so true that we sometimes regret that the stringency of our laws prohibits us from keeping as pets, *under proper conditions*, certain of our birds which appear to thrive in confinement under proper conditions.

However, there are many other forms of life which take kindly to captivity and with which we may establish those intimate relations resulting from daily associations with creatures that are dependent upon us for existence. It is the longing to establish this relation rather than the desire to imprison, which causes us to confine our pets. No pet is loved more than the one which, given its freedom, still shows its fondness for us by refusing to make good its escape.

Here lies the chief charm of 'bird gardening.' Our lunch-counters, bathing-places and nest-boxes promote an understanding between us and our bird pensioners and tenants which turns the species into the individual; the passing acquaintance into a friend.—F. M. C.

The Ornithological Magazines

THE AUK.—The April issue is largely filled with semi-popular articles that are well worth the perusing, while a sprinkling of the technical leavens the loaf. An obituary on Prof. W. W. Cooke, an A. O. U. Fellow, from the facile pen of Dr. T. S. Palmer, pays tribute to the excellence of the life-work of this indefatigable toiler whose chief contributions cover the field of bird migration in North America. A portrait accompanies the obituary.

Dr. C. W. Townsend 'In Audubon's Labrador' takes us, in 1915, with him over the same ground traversed by the great ornithologist in 1833 and shows us photographs of the country and some of its feathered denizens. It is of interest to note that on the original trip Audubon named Lincoln's Sparrow after a member of his party who secured it, and this was the only new species he added to his list. Dr. Townsend also discusses the status of 'The Labrador Chickadee (*Penthestes hudsonicus nigricans*) in Southward Migration,' and Mr. H. W. Wright, writing under a similar title, deals with the 'wave' of this bird that reached Boston and the vicinity in the fall of 1916.

Swinging to the other side of the continent we may read what Mr. F. S. Hersey has to say on 'The Present Abundance of Birds in the Vicinity of Fort St. Michael, Alaska.' Comparing his observations with those of Mr. E. W. Nelson, the pioneer of 1877–1881, the most marked changes in the bird-life of this dreary locality seem to be in the diminution of the Ducks and Geese.

Mr. J. A. Farley in 'Ornithology at St. Marks' strikes an original vein, cleverly and pleasantly introducing us to the various birds represented in the mosaics in the ceiling of the atrium of the ancient Venetian basilica.

Mr. H. Mousley records 'The Breeding of the Black-throated Blue Warbler at Hatley, Quebec,' and in 'Notes and News,

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will be found a number of records by Mr. Mousley and others bearing on the influx of various species from the north during the past winter—Evening Grosbeaks, Hudsonian Chickadees and others among them.

A new species of Red-winged Blackbird (*Agelaius phœniceus grinnelli*), from western Central America, is described by Mr. A. B. Howell, and a new name for the White-breasted Nuthatch, *Sitta carolinensis cookei*, is proposed by Mr. H. C. Oberholser, the old one by a tragic interpretation of nomenclatural rules, being transferred to the Florida form. It would be convenient to have the 'Notes on North American Birds' by Mr. Oberholser presented in systematic order rather than in the haphazard way the series has begun—a systematic ornithologist ought to be systematic first of all. His 'Second Annual List of Proposed Changes in the A. O. U. Check-List,' a compilation of published items is, however, a useful contribution. —J. D.

THE CONDOR.—Of the seven general articles in the March 'Condor,' the two local lists merit special attention. Rust's 'Annotated List of the Birds of Fremont County, Idaho,' occupies nearly one-third of the number and is illustrated by a map and twelve photographs. It includes notes on one hundred and three species based on observations made in the summer of 1916. Fremont County adjoins the western boundary of the Yellowstone National Park, and although it has a much larger proportion of sage brush country within its boundaries, a comparison of its bird-list with that of the Park would be instructive. The carefully prepared 'List of the Birds Breeding in San Francisco County, California,' by Hansen and Squires, is of peculiar interest in showing some of the changes which have occurred in a district of forty-one square miles where within the last seventy years a great metropolis has been built. If the ten species practically limited to the Farallon Islands and the introduced Sparrow and the Ring-necked Pheasant are omitted, the number of species is reduced to fifty-eight. The most remarkable facts are the finding of the Robin, Junco, Pine Siskin, and Pigeon Guillemot in recent years, and the absence of the Brown Towhee which is so abundant and characteristic elsewhere in the Bay region. This list should be compared with the one published by Ray in 'The Condor' for November, 1916, pages 222–227.

Sell describes graphically the havoc wrought among the Brown Pelicans and other water-birds at Corpus Christi, Tex., by the storm of August 18, 1916. As if by way of contrast, this article is followed by a chapter of Mrs. Bailey's delightful description of the peaceful bird-life of the humid coast as observed at Tillamook Bay, Ore.

From a study of one hundred and twenty-three specimens of Williamson's Sapsucker, Swarth concludes that two forms are recognizable and separates the Rocky Mountain bird from the typical California form under the name *Sphyrapicus thyroideus nataliæ* (Malherbe).

Wetmore describes an abnormal egg of the common Coot (*Fulica americana*) found near the mouth of Bear River, Utah, May 29, 1916, and attributes the abnormality in size and markings to "continuous excitement and fear and their reaction through the nervous system, upon the ordinary functions of the oviduct."

Palmer gives the full names of fifty-two writers on California birds—comprising about half of the list of those whose names were incomplete in Grinnell's 'Bibliography of California Ornithology.'

Among the shorter notes Oberholser records the total number of species and subspecies of birds now known from Texas as 605. Clay adds the Savannah Sparrow and Grinnell the Eastern Goshawk to the California list making the total number of species and subspecies in that state list apparently 544.—T. S. P.

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Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE Editor of BIRD-LORE has been called to Washington to serve as the Director of the Bureau of Publications of the American Red Cross. The duties of this position leave but a small margin of time for other things, and he therefore trusts that for a time BIRD-LORE's correspondents and contributors will pardon all delays in acknowledging their communications.

WE regret that circumstances beyond our control have prevented the inclusion of a colored frontispiece in this issue of BIRD-LORE. The October number, however, will contain a plate of Swallows; the Martins will be treated in December; the Tanagers in February and April. This will leave only the Shrikes, Waxwings, Larks, Crows and Jays, Blackbirds and Orioles, in all five families, three of them with but one or two species, to complete BIRD-LORE's series of colored plates of North American Passeres. This will mean that BIRD-LORE has figured in colored drawings, one-half natural size, nearly half of all the birds of North America.

BIRD-STUDENTS throughout the West will welcome the appearance of a pocket edition, bound in limp morocco, of Mrs. Bailey's standard 'Handbook of Birds of the Western United States.' The practical working value of the book is greatly increased by its new form.

WE hope that the publication in this issue of BIRD-LORE of the occurrence of albino birds will not bring us mere records of the observation of abnormally colored birds. Albinism in itself, as we have before remarked in these columns, is by no means noteworthy. It may be manifested by any species, and whatever may be the underlying factors, they express themselves through an absence of pigment and consequent lack of color.

The unusual, of course, always claims our attention, and the appearance of a white, or partially white Robin, for example, invariably excites interest and comment. This comment, however, is not worthy of record unless it includes some observation on the habits or actions of the bird concerned or of other birds in their relations to it. To illustrate: One of the records in this issue tells of an albino Robin seen in the same locality after an interval of a month. Here the bird's peculiar markings permitted the identification of the individual, always an important matter in field-work. A second record relatse to a white Swallow which other Swallows seemed to chase; and a third describes a partial albino Bronzed Grackle about which other Grackles were 'evidently curious.' The facts given in both these cases indicate that the albino birds apparently were recognized by birds of their species but were not accepted as normal; evidence that birds possess a power of discrimination.

WE learn with great regret that Norman De Witt Betts, an associate member of the American Ornithologists' Union, and a former contributor to BIRD-LORE, was killed by lightning on May 21, 1917, on a ranch in northeastern Utah, in his thirty-seventh year. Mr. Betts' studies in bird-life were made chiefly at St. Louis, Missouri, Boulder, Colorado, and Madison, Wisconsin, localities where he was successively stationed in the employ of the U. S. Forest Service. He left the Service a year ago to become a ranchman in Uintah County, Utah, a region, where he would doubtless have made field studies of much value.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

CONSERVATION MEASURES

While the attention of the nation is centered upon ways of conserving all available food and economic products, it is a fitting time for Audubon Societies to consider the ultimate uses to which birds are put, and especially, dead birds.

In the preceding issue increased production of poultry and game was urged with a view to supplying more families with fresh, palatable meat and to improving present market conditions. No account was taken, however, of what might be called the by-products of dressed poultry and game, namely, feathers, and in the instance of poultry which is not put into cold storage, feet, heads and entrails.

If the estimate of a practical poultryman is approximately correct, there are about eight thousand feathers on every fowl. For commercial purposes these feathers are divided into two classes—quills and feathers. The first, so far as the writer knows, are of no use as the trade is now managed, except to make artificial flowers or to be used as quills for millinery purposes, and since quills from larger birds than fowl and game are in greater demand, poultrymen are quite as apt to throw away wings and burn them on a dump-heap as to waste time trying to save them. On poultry-farms where only a thousand fowls are kept, this waste is considerable, while in larger establishments the loss would annually net an appreciable sum of money.

There may be several ways of utilizing wings or 'quills' (which include, of course, tail-feathers), but the most apparent one is the following easy method. Recalling the homely inventions of our grandmothers, everyone who can think back two generations must have seen or heard of the familiar 'wing' used about the store, hearth or house in general for dusting and brushing purposes. To this day a good wing, that is one which has been properly cured and handled, is quite, if not more, desirable than a cheap bristle brush, since the latter wears rapidly and unevenly, and is becoming more and more expensive along with brooms.

To make a wing usable and durable for household purposes, it should be dried a short time and then neatly bound at the cut end with a piece of cloth tightly sewed about it. A loop or small brass ring attached to the cloth handle, by which it may be hung up, completes the simple process unless one takes pains to disinfect the feathers. The wings of Turkeys and Geese are larger and more

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like a regular brush, while the wings of fowl are softer and better adapted to dusting nooks and corners not easily reached by a cloth.

The tail-feathers of poultry and game are more difficult to utilize satisfactorily, being loose instead of firmly attached to a bony framework, but with a little patience they can be gathered firmly together, and then tied and bound into very useful dusters, almost round in shape. Reckoning the value of such a wing or duster at ten cents—and surely one is worth that sum if small cheap bristle brushes are worth thirty-five and forty-five cents—the saving in actual money by utilizing such a waste product would be great. Moreover, in many homes where rigid economy must constantly be practised, the saving effected in this way, small as it might be, would be worth while, especially since it would revive a custom common to every well-ordered household in days gone by.

The contour feathers of birds are commonly sold for about ten cents a pound, in New England at least, to middlemen who make a profit of two cents a pound in passing them on to manufacturers of cheap mattresses. It is said that such mattresses are particularly used by French-Canadians who make up so large a part of the manufacturing population of New England. When one considers how many contour feathers it takes to weigh a pound, it will be seen that such a feather-mattress calls for the plumage of many birds, but as this is a practical way of utilizing the plumage of dressed poultry and a far better one than any ornamental device known to millinery, it need not be discouraged.

Just how many 'quills' and 'feathers' of domestic fowl find their way to manufacturers of millinery goods the writer does not know, but it must be evident to every thoughtful person that the plumage of poultry is far better conserved in beds and brushes than in bizarre, inartistic ornaments for women's headgear. This season an unusual number of such ornaments, in addition to wings, are seen on hats. To a person of taste, such a display is actually painful. As a keen observer remarked: "If women *were compelled to wear* such crude, fantastic adornments as one commonly sees, they would probably feel injured and rebel." Why should the illusory, deceptive word, *style*, which connotes so little, hold women of common sense, acumen, and otherwise good morals in thrall! It makes no difference whether feather ornaments are real or imitations, the result is the same in kind, and any woman who persists in wearing wings and the present abominations (artistically considered) known as 'aigrettes,' which crisp and curl in any or all directions the maker may dictate, certainly commits a real offense against the canons of good taste, and, furthermore, persists in being a stumbling-block to less intelligent women and girls who follow the lead of the so-called well-dressed woman.

It is not pleasant to hear men sneeringly remark that women will never give up using feathers on hats, when women do so many things of much larger import and make sacrifices that men have never been known to make.

The time has come now to drop this childish fashion, to realize that any and all parts of a bird's plumage are useful for more practical needs than for

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millinery purposes and to recognize the glaring trespass against good taste and public manners committed in wearing unnecessary, obtrusive, and distorted headgear. This practice, upheld in the name of Fashion, is on a par with the monstrosities of billboard advertising, now so generally condemned in communities where the landscape and public morals are esteemed. If any reasonable justification of adorning hats with the plumage of birds, whether real or imitation, could be given, the case might be different. The whole matter has become an issue of perverted taste, a relic of savagery handed down from uncivilized forbears who chose in childish love of bright colors and fantastic forms, to adorn themselves with feathers.

As to uses of the feet, head, and entrails of birds, the writer would welcome any information from persons who actually know what disposal is made of this so-called refuse. Aside from fatty and oily portions, and the possible use of parts of this matter in making 'meat-scraps' for poultry, the probability is that most of it is destroyed.

Let Audubon Societies investigate the whole subject thoroughly and discover the best means of conserving this waste, which if properly managed should yield the producer as well as the consumer of poultry and game better results.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXIV: Correlated with Music, Public Speaking, and Design

[NOTE.—In view of the constant increase in correspondence, the Editor of the School Department deems it wise to devote this midsummer number to articles contributed by its readers.—A. H. W.]

BIRD PAGEANT GIVEN AT JOHN B. ALLEN SCHOOL
Seattle, Washington

By L. LILLIAN MITCHELL

PROGRAM

PART ONE—PROLOGUE

(Orchestra Plays)

I. Father Time and Mother Nature.
II. Flowers appear.
III. Birds appear.
IV. Wren Drill.
V. Woodpecker Song.
VI. Crow.
VII. Hummingbird Dance.
VIII. Swallow Song.

PART TWO—BIRD-LIFE

I. Robins' Nest.
II. Cat catches one Robin.
III. Boy and girl catch a little Robin and put it in cage.
IV. Value of birds.
V. Pleasure derived from birds.

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PART THREE—DEDICATION OF BIRD-BATH

Boys' Chorus Sings.
I. Bath presented.
II. Speech of thanks by Father Robin.
III. Bird Pledge by School.
IV. Birds flutter around Bath.
V. Orchestra.

Directions.—Reserve front of stage for visitors. To left of stage, shrubs and bushes; entrance for Father Time, Mother Nature and Flowers. To right of stage, seats for orchestra and school. Background filled with trees. Center back of stage, house and a few feet in front, slightly to right, bird-cage. Left center of stage, inside of shrubs and bushes, a tree with three shrubs running diagonally across toward right front of stage. A few feet in front of this tree is placed a bird's nest. A bird-bath stands on right front well toward the footlights.

EXPLANATION

PART ONE—INTRODUCTION

Father Time and Mother Nature slowly enter the place selected for the pageant. Father Time carries a large dial on which is printed the seasons. Mother Nature carries a wand of branches of different trees. They cross stage once, then Father Time turns the dial to point to Spring. Mother Nature looks at his sign, then slowly waves her wand. A little girl, dressed to represent a crocus, trips forward and dances. When she finishes she glides to the back of the stage and Mother Nature again waves her wand when girls, dressed to represent a violet, a daffodil, and a tulip, each come on separately and dance. As the last flower finishes, the other three join her and all dance to the back of the stage.

Mother Nature waves her wand again and all of the birds in their costumes flutter forward and flit, dip, and glide around. Soon they all fly into the woods at back of the stage. Again the wand is waved and two little Wrens from the primary room come on to stage and flit and dip while the rest of the room sing the "Wren Song." Then at the call of the wand three children representing Woodpeckers come forward and tap on trees while their room sings the "Woodpecker Song."

Next, one boy, dressed as a Crow, comes forth and clog-dances. He is followed by seven little Hummingbirds who flit and twist and turn on all parts of the stage as their room sings about the "Hummingbird."

Last come five little Swallows, who dip gracefully as their room sings the "Swallow Song."

Father Time and Mother Nature leave the stage as it is being made ready for Part Two, and all of the little birds hover around the woods at the back of the stage, where they can be seen but not heard.

PART TWO—BIRD-LIFE

A Robin's nest, large enough to hold three little children and a doll dressed to represent a Robin, should be put in place before the pageant begins and kept from view by a screen. A bird's nest containing another doll Robin is placed in a tree that is near by. A cage made of wire netting and large enough to hold one of the children, who represents a little Robin, is in the center back of the stage. It is screened off during Part One. (Four attendants remove the screens at the right time.) Three children, dressed in green, each holding a bush behind which to hide, sit down in different parts of the stage.

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The screen is removed from the Robin's nest showing the three little children, the doll Robin in the nest and the father and mother Robin by the nest. The father and mother Robin fly away to get food. When either of them returns to the nest with imaginary food all the little Robins stretch up for it. (The mother Robin comes three times and the father Robin twice.) A cat is seen wandering back and forth; when both birds are away from the nest it sneaks over and seizes the doll Robin and carries it off into the bushes, after having worried it. The old Robins see the cat worrying it and fly frantically to the nest. The mother Robin quiets the little ones and the father Robin chases the cat.

As the father Robin and the cat disappear in the bushes, a little boy and girl run across the stage and point at the bird's nest in the tree. The boy climbs the tree and takes out the doll Robin and gives it to the little girl who fondles it and then runs and puts it into the cage. (As the little girl comes running, the attendant, who is behind the screen that hides the cage, takes the doll, removes the screen, and exposes the child Robin, which got into the cage while the boy was climbing the tree.) The frightened bird tries to get out and the boy pulls grass and throws into the cage, which frightens it more than ever. The girl goes in search of worms, wanders off into the woods, and gets lost. The cat sneaks over, puts his paw into the cage and tries to catch the bird. The boy drives the cat away and it disappears in the woods.

Five or six boys and girls rush over to the cage and question the boy, in pantomime. He shakes his head, and they hurry out into the woods to look for the little girl. (They put their hands up as if shouting, and run back and forth, until one designated searcher has crossed the stage three times. Then another searcher discovers the girl sleeping behind a bush. Motioning to the rest of the searchers, they embrace the girl and carry her home.) As they near the cage where the boy is still watching the bird, which is drooping now, the boy runs out to meet them and he and the girl hurry to the cage. The girl stands, gazing thoughtfully at the drooping bird for a moment. She slowly lifts the cage and takes out the bird. She nestles up to it for a moment and the bird flutters, straightens up and slowly flies away to its nest. The searchers then lead the little boy and girl away.

The father and mother bird now begin to coax the little Robins out of the nest. They give a call-note and fly back and forth. Finally the little ones move, half tumbling and half crawling out of the nest. Then the father and mother birds begin to pick bugs and insects off the shrubs, followed closely by the little Robins who occasionally fall down and who always open their mouths wide when offered something to eat. The old birds pick at the roots of the shrubs, too. The shrubs begin to grow. They rise slowly until they are standing up. Soon the Robins begin to fly farther away and finally coax the little ones, who are flying better by this time, out into the woods.

The screens are now arranged to represent a house, and a rocking-chair is placed in front of it. An old man (a boy with white hair and beard, wearing an overcoat and leaning on a cane as he limps along) comes out and sits on the chair. A Bluebird appears and flits back and forth while the rest of the children in the room sing the song "Bluebird." The man watches for the bird and smiles happily every time that it appears. The Bluebird then flies into the woods and the stage is cleared for Part Three.

PART THREE

[As the different sets of birds finish their part of the program they retire to the woods which are set at the back of the stage and fly quietly back and forth during the conclusion of Part Two.]

The principal, or whoever presents the bird-bath, unveils the bath, which has been standing in one corner covered by the flag. As he does so all of the birds from the woods flutter in and fly around the bath. The person who presents the bath makes a short,

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appropriate, dedicatory speech to the birds and then father Robin steps forward and responds thus: "We thank you for your kindly interest in our behalf. May this bath be a blessing to many thirsty birds." [Turning to the school, which is seated on benches]: "And now pupils of the (John B. Allen) School, in view of the countless perils confronting us, and of our helplessness before them, we implore your help in creating a way of deliverance, through better knowledge of us and of our value, more thoughtfulness for us, and more sympathy with our weakness and our love of life." The school then gives the following bird pledge: "We promise to do all that we can for our native birds by treating them with kindness and by providing them with food, water, and homes."

The orchestra plays a selection, and a child comes forward with a flag. The whole audience stands, giving the flag salute and pledge, singing "The Star Spangled Banner" in conclusion.

[Those teachers who are interested to train their pupils to give a simple pageant, presenting few practical difficulties in staging, will be glad to know that the above was so favorably received, when given by the John B. Allen School at Seattle, Washington, that visitors in the audience urged its publication.

"In regard to further instructions concerning the costumes and the bird's nest, see pictures of children dressed as birds in 'Bird Children' by Elizabeth Gordon. The costumes used were all made of lining, except those of the Hummingbirds, who were costumed in cheese-cloth. Most of the costumes completely covered the arms, while a few had straps to run the fingers through. The tails were wired so as to make them stand out. Each child was measured and the costume made large enough to be worn over the clothing. The cat's costume was cut like a child's sleeping-suit and a stuffed tail was sewed on made of black lining.

"The bird's nest was made by placing a log across the front and setting a few stakes between which were woven twigs. The whole was covered with old grass. This was placed on a small elevation on the field chosen for the pageant. If there should be no elevation a small platform could be erected and covered with boughs."—A. H. W.]

FOR AND FROM ADULT AND YOUNG OBSERVERS

THE STORY OF 'BEAUTY'—OUR TAME ORIOLE

One morning late in June my little sister, while playing in the school-yard, saw a baby Oriole fall from a tree. She picked it up and placed it in some bushes where she hoped it might be safe. As soon as school was out she found it and brought it home, just a little fluffy ball of tan and light yellow, with two rows of white feathers like dandelion down along the sides of its head. One of its feet had been injured, for the toes were very much inflamed and one nail was missing.

Mother had read, 'First Aid to Birds' in the *Youth's Companion*, and she thought she would like to try helping the little one. We made a mush of egg-yolk and boiled potato, and, placing the bird in a berry basket lined with grass, we fed it from the end of a pointed orange-spoon. Drops of water were given in the same manner and an occasional bit of berry or worm. For the first few feedings it was necessary to force open the bill by a slight pressure at the

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sides but soon merely the touch of the spoon was the signal for opening the mouth at once.

In a couple of days Beauty began to hop to the edge of the basket, then off the basket to the floor, and from the floor attempted to fly to the chair-rounds. At first our bird could only reach the very low ones, but each day it reached a higher one and soon could fly anywhere about the room. When first learning to do this, it would back off about a foot and then give a sort of leap. If it failed it would back off a little farther and would finally gain the round.

When very young it kept up an almost incessant calling, but as it developed this changed to an occasional low, soft call or a quick trill or chatter in answer to our call or whistle.

RUTH AND 'BEAUTY'

"For the first few feedings it was necessary to force open the bill by a slight pressure at the sides"

The tail and wings developed rapidly and by the end of two weeks Beauty was almost an exact reproduction of Mother Oriole. The feathers under the wings and along the sides of the breast seemed to become a deeper yellow each day.

We soon placed Beauty in a cage with a shallow dish of water and also one of food, and before long the little bird was beginning to drink and pick up things for itself though it still liked to be fed. One day we found it soaking wet. It had been down in the water-dish for a bath. Some of these warm days Beauty washes several times and has become so tame as not to seem afraid of anyone. Before being able to fly, Beauty would hop after mother's skirts, and as soon as strong enough to use the wings, would fly after us everywhere, lighting on our heads, shoulders, or hands, coming to the table at meal-time, and taking a helping of anything if allowed to alight on the dish, the remains of cereal, butter, cocoa, berries, etc.

After our bird had lived with us for about three weeks we hung its cage from an upper window near an elm tree. How it loved that elm tree! It spent most of the time in it, coming back to the cage quite often for food. If the window was open it would come in for a time and then fly out again. Once in a while it flew to trees farther off but always came back when we whistled or called.

Our pet found the water on a bird-shelf about fifty feet away and loved to bathe there, though still drinking in the cage. Beauty constantly surprised us

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when we were out in the yard by lighting on us when we least expected it, or coming down in the flowers we were gathering, to look for little insects among them.

At night we coaxed this baby Oriole to the cage with sugar, which it would always come for, and then we closed the door for safety's sake. Early in the morning Beauty called to have the door opened and seemed so glad to get out to the tree and the bugs again!

Just now our bird is sitting on the table eating peanuts which little sister is crushing for it. Beauty loves to have a taste of everything—meat, potatoes, vegetables or ice-cream—and begs for a share of them all and is so very wise and cunning, with head on one side waiting for something more.

We cannot begin to describe how cunning our pet is, and we are all so fond of this little bird foundling! We wonder if it will fly south with the Orioles in the fall and if it will come back to us next year. We should know it by the crippled foot, and how we hope Beauty will come back to us again!—RUTH H. SCOTT (age 12 years), *Wake Robin Junior Audubon Society, Kingston, N. Y.*

"AT NIGHT WE COAXED THIS BABY ORIOLE TO THE CAGE WITH SUGAR"

[The teacher who forwarded this contribution writes: "Last spring, I formed a Junior Audubon Society with twelve little girls; other children heard of it and wanted to join. Before school closed we had over seventy members. In May many of them spent a Saturday at Slabsides with John Burroughs. I have known him for many years.

"We took walks once a week, after school, and to most of the children, it opened up a new world. They began to notice all the birds and then try to find out their habits and loved to tell about what they had noticed.

"I am enclosing a little story that I thought perhaps you could use in BIRD-LORE. It might be a help to some other little folks to know how to make friends with the birds. It would be impossible to tell of the many cunning things 'Beauty' did. I was a personal friend of his.

"The little girl who is sending it has been especially interested in birds for two or three years, knowing most of our familiar birds by call as well as by sight.

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"Last winter she had a Chickadee come and feed from her hand.

"The development, growth and friendliness of 'Beauty' was such a wonder to all the neighbors, we thought others might like to know about our pet. We enjoyed the story of 'Pete' in the May-June number. Just now the children are caring for a baby Robin until it is able to fly and care for itself. It was rescued from a cat."—A. H. W.]

A PARTRIDGE FAMILY

On the morning of June 7, in a pile of dead pine branches, I saw a single Partridge or Ruffed Grouse. This did not arouse much interest, but about four in the afternoon, while returning from a short ramble, I was surprised to see a flock of what I took to be seven or eight downy yellow-and-brown baby chickens of a very small size.

I did not hold my idea concerning baby chickens long, for very soon I saw an angry female Partridge who came at me with half-open wings, screaming, 'Hide! Hide!' very much like a cat.

Most people think that the parent Grouse pretends to have a broken wing and that the babies drop wherever they are, but this was not the case in my experience.

The mother, after the first attempt to frighten me, flattened every feather and went over the ground as if on wheels. Then she fluffed out all her feathers, spread her tail to almost a half circle, and erected her crest so as to seem twice her size, and then repeated her tactics.

The little ones ran as fast as they could—which is pretty fast—for ten to twenty feet, to a place of concealment where it was impossible to find them.

As soon as the chicks were hidden, the mother ran to some distance where she took wing noisily and departed.

I have not seen or heard anything of them since.—PHILIP J. DARLINGTON, JR. (age 12 years), *Winchester, N. H.*, R. F. D. 4.

[As readers of this article might be confused by the use of the names Partridge and Ruffed Grouse, it may be well to recall that in the North, the Ruffed Grouse is commonly known as Partridge, while farther South, the common name Partridge is applied to the Quail or Bob-white.—A. H. W.]

GULLS AT BANDON, OREGON

I am a member of the Sandpiper Bird Class at Bandon. This is a little town of about 2,000 people. It is picturesquely situated at the mouth of the Coquille River, on the south side. From any part of the town there is a beautiful view, but we built our small home as near the great Pacific Ocean as we thought it safe to live, so we enjoy the beach, which is considered by everyone who has had the pleasure of seeing it, as the most beautiful one on this coast. There are many enormously large rocks which Nature has carved in ages gone by. Among these are the Sphinx, or Great Stone Face, Duchess, Monk, Table and Cross rocks and the Cave of the Winds.

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These rocks are the homes of Gulls, Murres and Puffins. The Gulls are very pretty birds, especially the grown ones, which are a bluish gray and white. The young are speckled brown and white in color. They have rather long legs, very large wings but a small body. The neck is long, with head similar to that of a Duck, but with a pointed beak bent at the point.

When seen on the beach or flying, they look large and heavy, but we have picked up injured ones on the beach and found them very light in weight. Sometimes they have a wing injured by a shot or a crippled leg where a crab's claw has had hold, or so it looks to us. They are graceful birds in flight or

GULLS AT BANDON, OREGON
"The beach, which is considered by everyone who has had the pleasure of seeing it as the most beautiful one on this coast"

when walking. Of all birds I think them the least timid, and am sure they could be easily tamed. For a long time one would come and sit in front of our house and we would feed it and talk to it. Each day it came closer, but after a time it came no more.

As everyone knows Gulls are scavengers and will follow ships on their voyages, watching for any scraps of food which may be thrown overboard. A great many people are annoyed because they come and steal food from their chickens. At noon each day they visit our school-house to look for bits of lunch which the children leave. For a time some of the boys tried to catch them. They soon learned the lesson and now stay perched out of reach until the lines form for the children to return to lessons, when down they fly for their lunch. People think it odd they do not bother us as we are so near the beach.

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The only time we see them is when they are leaving the rocks soon after sunrise on their way to the wharfs or river beach, and again just at sunset when they are going to rest for the night, unless by chance a dead animal or fish has been thrown up on the beach, or the season for clam-digging is on. When the tide is low they feed on crabs which they catch by a leg, then fly to a rock where they drop their prey, thus breaking the shells so they can eat the meat.

The other day as I was walking by the river I saw a full-grown Gull flying around with a piece of meat, and two younger ones were flying after, screaming their loudest. I think the parent Gull was either teaching them to fly or to steal. They are such thieves! At almost any time one can see two of them having a tug of war over a fish. One will have the head, the other the tail, and they will pull and fight until one wins and flies away with the booty, or another Gull swoops down and grabs it, leaving the other two very angry.

As we walk along the river to town, which is about half a mile from our home, we have noticed Gulls by hundreds on the north side of the river near the lighthouse, watching for fish and crabs. As soon as one secures a prize it begins to scream.

In the fall of the year when the salmon start to run, the Gulls go farther up the river to the seining-grounds and to the cannery. Here they find plenty of food.

Although to some they are most annoying, they are very useful, as they keep the ocean and river beaches free from all refuse and decaying matter. They are protected by law, yet some boys and men delight to shoot at them.

Their nests are made in deep grooves in the rocks, lined with straw, grass and mud. There they are nearly safe from human hands. This is unlike the Murres which lay their eggs scattered about on the great rocks, so they may be easily picked up by anyone who can climb the rocks, which is not an easy task, yet many people do it.—IRENE BARNEKOFF (age 14 years), *Bandon, Ore.*

[Perhaps some of our readers may have noticed a newspaper item last winter about Sea Gulls off the coast of Ireland, which "assisted airplanes in finding the positions of submarines for the motor patrol boats stationed along the route of incoming and outgoing ships." The article states that "these birds, which have keen vision, can sight a submarine below the surface of the water and fly down to see whether it is some new kind of fish. The motor boats then run up at full speed and start to shoot bombs in the sea to find the suspected submarine."—A. H. W.]

THE SUMMER TANAGER

Last year a Summer Tanager built a nest on an oak tree near the house out at the farm. Every evening I would watch the mother sit on a low branch and call her mate, and I would watch the mate come and they would go to bed.

I watched them teach their babies, but the babies were not very pretty. It took them two days to learn. This year they came and built again.—ROBERT S. COLLINGS (age 10 years), *Hot Springs, Ark.*

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[The youngest member of the Boys' Audubon Club, which is the Bird Protectors' Club of Hot Springs, sends the above. As a bit of unaided observation on the part of a boy only ten years old, it conveys first impressions of bird-life vividly. Such first impressions are the ones which stay by one the longest and lay the foundation for more extensive knowledge in later years.—A. H. W.]

A BIRD RECORD OF NOTE

Harold Fredrickson, an eleven-year-old lad, has a list of birds identified during the year 1916 which any boy should be proud of. The list includes ninety-eight species, all of which have been seen during the year 1916, in and about Charles City, Iowa.

The first actual record for a Cardinal seen at Charles City, for several years, is on this boy's list.

He serves as Vice-President of the Toksali Nature Club, a Junior Chapter of the Califor Naturalist Club, and also acts as curator of the Club. All specimens of nests, and other nature material, found while the Club is tramping are given into his care. During the winter months, the Juniors study the animals, birds, etc., from specimens at hand. They never kill, however, for a specimen, except in the order of insects.

The Califor Naturalist Club has for several years published the list of birds seen by Club members during the year. Making use of these lists, and several others of individual observers, the Corresponding Secretary, Carroll Lane Fenton, recently compiled a list of the 'Birds of Floyd County.' This list was published in the 'Wilson Bulletin.' The President of the Naturalist Club is now working on a list of the 'Mammals of Floyd County,' and as soon as possible, lists of the insects, mollusks and reptiles will appear. Mrs. F. May Tuttle, an honorary member of this Club, is now compiling a list of the 'Flora of Mitchell County.' When this list is completed, it is to be published by this Society, and with the other lists, it will form quite an accurate and complete list of the the wild life of this part of Iowa.—HOWARD C. BROWN, *Charles City, Iowa.*

[Practical work of this kind is most desirable, since local observers covering limited areas can obtain reliable data which is necessary to fill in gaps in observations covering larger areas. Bird clubs should everywhere be encouraged to keep accurate systematic records for uses of comparison.—A. H. W.]

THE BLUEBIRDS

A male Bluebird sitting in a tree,
Sings a sweet song to you and to me;
His tender mate is on the nest,
Sheltering some little eggs beneath her breast.
—MARJORIE CARLSON (Age 8) *Garfield School, Minneapolis, Minn.*

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THE PHŒBE

By T. GILBERT PEARSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 93

There is a little camp in the woods on the New York side of Lake Champlain where three children and their parents go every summer. It is a good place to see birds. In fact, the children are awakened every morning by birds singing in the trees all around them. There are Redstarts and Chestnut-sided Warblers about every day. Near by the Oven Bird calls "teacher, teacher, teacher," until one begins to wonder what has become of that dear instructor. Sometimes the old Grouse follows her young through the thicket and under the veranda. In the evening it is pleasant to sit on the porch and listen to the Veeries. Sometimes a dozen sing until the night shuts in upon them.

Of all the birds, however, that visit "Bird Nest Cottage" the Phœbe is the most trustful. She and her mate may be seen at almost any time, either on the veranda-railing or on some bare limb of a tree near by.

When the family arrives on the fifteenth of June, the children, after one look in the camp, all rush out to find the Phœbe's nest, and for several years they have never been disappointed.

Three seasons this bird built under the veranda, placing the nest on cross-timbers. Last summer the nest was made on the top of a window-facing just under the low-hanging eaves. This place would be a very insecure foundation for a nest as large as that built by the Phœbe, as the projection is less than an inch from the side of the wall, if the nest were made of sticks and straw, but the Phœbe builds her cradle chiefly of mud, so she can plaster it to the wall almost anywhere that there is just a little support. Moss is usually employed in addition to the mud.

Four white eggs are laid. These are rarely adorned with a few brown spots. The children, however, have never been able to discover whether this particular Phœbe lays pure white eggs or whether they are spotted. The reason for this is that the eggs are always hatched by the middle of June.

All day long the plaintive *pewit phœbe* of the parent birds may be heard, and every few minutes one of them brings food to the nest.

One night we took an electric torch and climbed down the rocks under the veranda to see what the Phœbe family was doing. There, sprawled all over the top of the nest, were four well-grown youngsters—the parents were nowhere in sight. Had the little ones been hatched only a few days we should probably have found the mother at home, but now there was no need for her presence to keep the babies warm, for they were not only nearly as large as their mother, but well covered with feathers. The night was warm, so it was more com-

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THE PHOEBE

Order—PASSERES
Genus—SAYORNIS

Family—TYRANNIDÆ
Species—PHŒBE

National Association of Audubon Societies

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fortable for everybody to leave the young ones by themselves, while the mother roosted in a tree near by. I suppose it was a great relief to her to be able to get an unbroken night's rest once in a while after a hard day's work feeding them.

There are other camps in the neighborhood, and probably every third one has its pair of Phœbes. Some of the people do not like to have the birds around,

A PHŒBE AT ITS NEST IN THE FACE OF A CLIFF

so I have heard that they tear the nests down, but at "Bird Nest Cottage" Phœbes are always welcome.

Phœbes build their nests in a great variety of places, but the most of those I recall having seen were situated on some structure made by the hands of man. Thus they build on the joists of barns or other outbuildings; on the cross-pieces of verandas; under the eaves; on the cross-pieces of culverts or bridges; or on the sides of rock walls. Once I knew a Phœbe that made her nest on the side of a disused open well. The spot selected was about six feet below the level of the ground and was protected by a broken piece of

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rotting curbing. Stone piers of country bridges are favorite places and the bird is widely known as "Bridge Pewee."

Mr. John Burroughs thinks the Phœbe does not show any very great amount of intelligence when it comes to adjusting its mind to new conditions. In BIRD-LORE, some years ago, he recounted an incident of a Phœbe that suddenly found herself deprived of the one spot on the ledge of a rock where she had been building her nest for years, and which may have constituted the only place where she had ever had a nest. At this juncture he states:

"A new stone house had been built upon the rocks above me, with a piazza all around it, covered by a continuation of the main roof down the required distance. After much inspecting of this piazza the birds concluded to build a nest upon the plate beside one of the rafters. Now this plate was about thirty feet long and there were ten rafters notched upon it, and hence ten plates exactly alike. The bird selected the fourth rafter from the end nearest the woods, and began her nest upon the plate beside it. She was in a great hurry and worked 'on the jump,' so to speak. She got her mortar in the ditch near my cabin. One morning I watched her for some time. She made a trip every minute, carrying her load up a steep grade about one hundred yards. The male looked on and cheered her, but did not help. He perched upon a dead sunflower-stalk near the ditch, flirted his tail, and said, or seemed to say, 'Go it, Phœbe, you are doing well; you are the wife for me.' Every trip the mother bird made he would accompany her a short distance and then return to his perch.

"As the nest-building seemed unusually prolonged, I went up one morning to the new house to see how matters were progressing. Instead of one nest I found five in process of construction. Some had only the foundation laid, others were an inch or two high, and one was three-fourths finished. I sat down to see what it all meant. Presently the eager builder came with her beak loaded and dropped down upon one of the nest-foundations. She seemed to hesitate a moment, as if she had a suspicion that something was wrong, and then put down her material and flew quickly away. The next time she struck the nearly finished nest and put down her load without hesitating. I watched her for half an hour and soon saw how it was with her—why she scattered so. I concluded she was misled by the sameness of the rafters—they were all alike, and whichever one she chanced to hit in her hurry, there she deposited her mortar. She had been used to a ledge where there was but one building-site; here there were half a dozen or more, with no perceptible difference between them. So I hit upon a plan to concentrate her—I put blocks of wood or stones in all the nests but one and watched the result. When now she came upon these strange obstacles she would hover about for a moment until she discovered the largest and unincumbered nest, when she would alight upon it and leave her load. She then soon took the hint, finished the one nest, laid her eggs, and went forward with the incubation."

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John James Audubon, the great naturalist, tells us in one of his books of the movements of a pair of these birds about their nest. He hid in a cave near the nest while the birds went about their daily affairs. He says:

"There was a remarkable and curious twittering in their note while both sat on the edge of the nest at those meetings, and which is never heard on any other occasion. It was the soft, tender expression, I thought, of the pleasure they both appeared to anticipate of the future. Their mutual caresses, simple as they might have seemed to another, and the delicate manner used by the male to please his mate, riveted my eyes on these birds, and excited sensations which I can never forget.

"The female one day spent the greater part of the time in her nest; she frequently changed her position; her mate exhibited much uneasiness, he would alight by her sometimes, sit by her side for a moment and suddenly flying out would return with an insect, which she took from his bill with apparent gratification. About three o'clock in the afternoon, I saw the uneasiness of the female increase; the male showed an unusual appearance of despondency, when, of a sudden, the female rose on her feet, looked sidewise under her, and flying out, followed by her attentive consort, left the cave, rose high in the air, performing evolutions more curious to me than any I had seen before. They flew about over the water, the female leading her mate, as it were, through her own meanderings. Leaving the Pewees to their avocations, I peeped into their nest, and saw there their first egg, so white and so transparent that to me the sight was more pleasant than if I had met with a diamond of the same size."

Very often the Phœbe rears two broods of young in a year. In such cases the first nest is rarely used a second time. Their nests are often infested with insects that must render the lives of the young very uncomfortable, in fact they are sometimes killed by the attacks of these parasites.

Few birds are greater insect-eaters. One need only watch a Phœbe a few minutes to become convinced of this fact. True Flycatcher that he is, the bird lies in wait for his prey. His watch-tower is some dead limb or stake. Here he sits, frequently jerking his tail nervously and calling in his petulant, impatient way until some insect comes flying along. Then out he darts, seizes his prey in his beak, and returns to his perch.

Phœbes eat many beetles, weevils, grasshoppers, and wasps, as well as flies that bite and sting cattle. A few seeds are taken and the bird eats also an occasional cherry, elderberry, or other wild fruit. It is among the first birds to arrive in spring, and is the only Flycatcher in the United States that spends the winter north of the frost-line. It may be seen in Florida, Louisiana, and other southern states in the winter.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

A NEW THREAT TO BIRD-LIFE

The war situation has resulted in an increased menace to bird-life in the United States. There is growing evidence that owing to the high cost of meat and other food-staples, Italians and Hungarians in the North and negroes in the South have turned an unusual amount of attention to the killing of song-birds, and as the war goes on this slaughter will tremendously increase unless checked.

This matter has promptly been taken up by the Association, and by the quick assistance of the members a campaign has been launched to meet this new drive against our birds. At the present time the Association is active through the press in calling the attention of the public to the necessity of each individual exerting his or her influence to see that birds are protected. It is absolutely impossible for the limited game-warden force of the country to watch every irresponsible person who goes out with a gun, but if the people of the country who are interested in birds will investigate every gunshot they hear, will warn their employees not to kill birds, and to watch for others with a view to reporting violations to their game-warden or to this office, great good can be accomplished.

The Association also has prepared cloth 'warning notices' which will be sent free to anyone willing to post them on their property, by the roadside, in country stores, or elsewhere. These posters call attention to the law on the subject, and ask people to report violations. They are printed in English and Italian. Across the top runs the legend, "Shooting on this Property is Prohibited." Thus the posters will serve property-owners as trespass signs, and when placed elsewhere they may be turned in half an inch at the top so that this line is not displayed. Write at once for a supply of these.

As Secretary of the Association I wish to urge all our members and other readers of BIRD-LORE to exercise unusual vigilance, for such service will greatly be needed during the coming summer and autumn. If you find anyone illegally killing birds, try, if possible, to get the person's name and address. Collect every available fact on the subject, and if you do not know the local game-warden, write or wire the facts to the office of the National Association and we will take the matter up through the state authorities. The Association stands ready to go to the expense of employing a lawyer, if neces-

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ST. FRANCIS AND THE BIRDS
From a drawing by A. G. Learned

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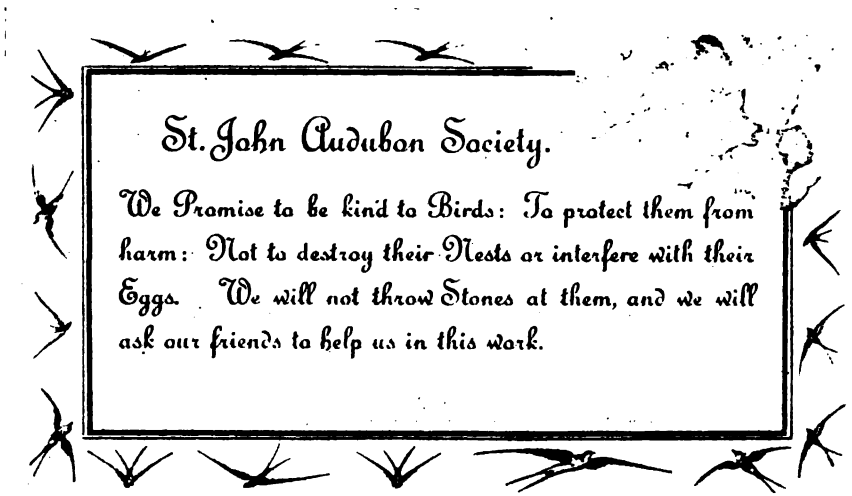
sary, or take other steps necessary to bring such offenders to justice.

This is the time when all Audubon Society members should be particularly alert. The enormously enlarged acreage being put under cultivation in this country means that the greater crops of succulent plants, grains, and vegetables will furnish additional food for insect-pests. A large per cent of the eggs laid by insects never reach maturity. One reason for this is the lack of food. With increased food there will be an increased number of insects. This means we need a greater number of birds. We must wage a campaign of the utmost vigilance. Birds should be fed during the time of the year when their natural food is scarce. More nesting-boxes should be placed for them, and drinking-fountains should be provided in dry regions; and, above all, look out for the man or boy with a gun!

The food now destroyed in America by insect and rodent pests would feed the people of Belgium! Can we spare a single insect-eating bird?



PLEDGE CARD USED BY THE MEMBERS OF THE ST. JOHN, NEW BRUNSWICK, JUNIOR AUDUBON SOCIETY. IT IS ATTRACTIVELY PRINTED IN THREE COLORS

OUR ARMY OF RECUITS FOR BIRD-PROTECTION

Think of educating 261,654 children to the beauty and value of bird-life in a single school year! This is the record of the National Association for its Junior membership system the past year. Think of the effect that this should have on the next generation, when these boys and girls have taken their places in the Nation's work! There were 11,935 of these Junior Audubon Bird Clubs formed between June 1, 1916, and June 1, 1917.

It would seem that the record made last year was the absolute limit with the funds that were at our disposal for the purpose, but this year's record exceeds last year's figures by 1,034 classes and 56,516 members. These results were achieved at a cost of $25,000 (in addition to the children's fees) subscribed for this purpose. Five thousand dollars came from Mrs. Sage and $20,000 from an unnamed benefactor who has magnificently supported this work in the past.

These clubs were formed in every state of the Union, and more than 8,000 children were enrolled in Canada. The following list shows the distribution of these Junior Classes and their membership; it also

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shows the number of children enrolled in each of these states the year preceding. This comparative arrangement therefore shows the increase in the various states.

Statistics of Junior Classes

Southern States (Sage Fund)

States	Classes 1917	Members 1917	Members 1916
Alabama	32	530	384
Arkansas	28	643	203
District of Columbia	3	77	247
Florida	216	4,049	2,777
Georgia	131	2,578	2,293
Kentucky	114	2,391	1,284
Louisiana	30	542	340
Maryland	150	3,360	3,425
Mississippi	38	991	360
North Carolina	134	2,925	2,443
South Carolina	61	1,600	989
Tennessee	101	2,541	1,063
Texas	150	3,960	2,123
Virginia	120	2,356	1,517
West Virginia	196	4,130	3,455
Totals	1,504	32,673	22,942

Northern States

(Children's Educational Fund)

States	Classes 1917	Members 1917	Members 1916
Arizona	8	176	63
California	348	8,431	2,119
Colorado	70	1,771	2,221
Connecticut	611	12,546	9,137
Delaware	7	109	141
Idaho	34	364	619
Illinois	433	11,722	7,961
Indiana	359	6,490	5,677
Iowa	279	5,832	4,154
Kansas	114	2,447	3,081
Maine	79	1,585	1,162
Massachusetts	519	10,802	6,536
Michigan	542	10,855	14,334
Minnesota	427	9,441	8,094
Missouri	115	2,999	3,103
Montana	41	1,063	2,011
Nebraska	127	2,080	2,793
Nevada	22	478	180
New Hampshire	317	6,165	4,591
New Jersey	579	14,382	8,226
New Mexico	10	165	79
New York	1,841	41,514	35,536
North Dakota	90	1,888	477
Ohio	1,121	22,249	20,657
Oklahoma	55	1,149	711
Oregon	190	4,100	4,243
Pennsylvania	732	17,464	8,304
Rhode Island	44	1,215	1,280
South Dakota	43	785	1,131
Utah	33	738	1,521
Vermont	48	873	1,240
Washington	604	14,696	5,987
Wisconsin	138	3,070	4,188
Wyoming	11	193	290
Canada	449	8,048	10,350
Totals	10,431	228,981	182,196
Grand Totals	11,935	261,654	205,138

Many charming letters, often with excellent photographs, come to us from this army of enthusiastic young bird-watchers, and a whole magazine might be filled with them, could the requisite space and expense be spared. All it is possible to do now is to offer some sample pictures with descriptive legends.

BIRD PAGEANT GIVEN BY THE LITTLE FOLKS OF THE JOHN B. ALLEN SCHOOL OF SEATTLE, ON THE OCCASION OF THE PRESENTATION OF A BIRD-BATH

(See page 218)

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PRIZE-WINNERS IN THE BIRD-HOUSE CONTEST OF EVERETT, WASHINGTON

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LIBRARIES AND BIRD-PROTECTION

The public libraries in the United States and Canada number perhaps 6,000, not counting those of schools and colleges. New York State alone has 576 according to last accounts, and no considerable town or village in New England lacks something of the sort. All these ought to be, and most of them are in varying degree, not only reservoirs of information but fountains of improving influence. Whether this latter usefulness is exerted depends largely on the initiative and energy of the librarian, but in many cases where this is not apparent it may be roused, willingly enough, by tactful suggestions from without.

One of the directions in which a library may serve its community well is in stimulating and promoting an interest in birds and bird-protection among the younger readers of its books. A long list of libraries might be made that have done this to great advantage, and some of them have been conspicuous in this service. In Columbus, Ohio, for example, in Brookline, Mass., and elsewhere, the library has furnished not only a reading-room for flourishing Audubon Societies or bird clubs, but space for extensive exhibitions that have awakened the whole town to the value of the subject.

Many librarians have been themselves the organizers of bird clubs, Junior Audubon Classes, and similar movements, and have freely opened their facilities for study. One such, in California, has placed dozens of nesting-boxes, food-tables, baths and other bird-attracting apparatus on the library grounds, and has gathered about her a club of more than 150 school-teachers and pupils.

When such personal leadership is not taken, much may yet be done by a librarian to help in this matter. The need of books of reference for bird-students should be recognized and such books supplied. Some of them are too costly to be bought by the ordinary child, yet should be accessible to him. It is the function of the library to provide them. Such periodicals as BIRD-LORE, *The Condor*, and

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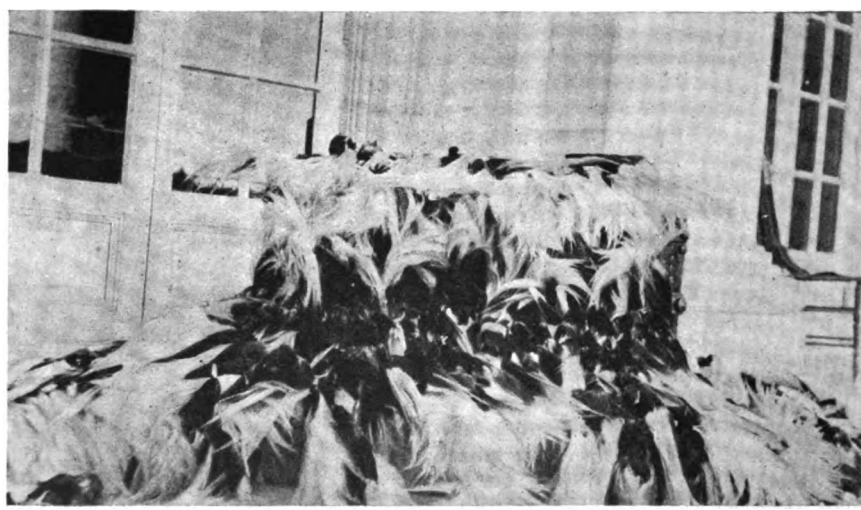
Blue-Bird might be subscribed for. The publications relating to birds by the United States Department of Agriculture, the state governments and experiment stations, which usually are very instructive, ought to be displayed and attention called to their value. Notices should be placed on a bulletin board of new books, and of good articles in current magazines, in the field of nature-literature; and pictures should be shown wherever practicable. The colored plates issued in its Educational Leaflets by this Association should be displayed on bulletin boards in all libraries, with information as to where copies may be obtained.

In these and other ways, libraries may, and should, give aid to the cause of bird-protection and bird-study, and thus render a service to their communities for which they are peculiarly well fitted.

Audubon Prosecutions

One of the great roosting-places of Robins which resort in winter to the more comfortable region south of the Ohio River and gather in enormous numbers at certain favorable places, was, last winter, in the mountains near Rugby, Tenn. Millions roosted in the evergreen trees on the hillsides and at evening gathered in the branches in such clusters that dozens might be killed by a single charge of shot. "It has been the custom," says a local newspaper, "of the people in the neighborhood to kill the Robins by the thousands. In fact, this winter two carloads of the birds have been shipped to the markets from Rugby. It was known to everybody about the place that the Robins were being killed, and nobody seemed to care anything about it one way or the other. Certainly the plain folks of Rugby did not know it was against the law to kill the birds."

This is the same sort of information that used to fill western papers when the vast flocks of Passenger Pigeons suffered slaughter year after year until presently all were gone. The men and boys of that time took no heed of law or thrift; and the "good people" of Rugby were equally ignorant and thoughtless. But before the shooting had gone far, "an agent of the Audubon Society," we are told, went to the town, told the people the killing of Robins was against the law, and to prove



PHOTOGRAPH OF 527 SKINS OF BIRDS OF PARADISE

Seized by Government Agents at Laredo, Texas, January 29, 1916. They were being smuggled into the United States. These were divided among educational institutions by the Government, a number being sent to the National Association of Audubon Societies.

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it had a dozen or so arrested, and found a judge who fined them all. "They said they did not know it was against the law," the report proceeds, "but now that they are acquainted with the fact, they will cease shooting the birds. No further trouble is expected from the region, and the lives of tens of thousands of Robins have been saved."

All this is gratifying, and it shows what may be done by a wise and energetic man, with the Audubon spirit in his heart and knowledge in his head to correct the bad traditions of a community whose chief faults are owing to lack of education. We greatly need more energetic local Audubon workers like this splendid man, to fight for the wild birds.

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WITH OUR AFFILIATED SOCIETIES

The issue of a *Bulletin* has also been begun by the New Hampshire Audubon Society, under the active leadership of the Rev. Manley B. Townsend, at Nashua. This will be published irregularly, and, to judge by the initial number, will be a series of instructive leaflets rather than a news-sheet. The first issue gives admirable advice on feeding birds in winter, peculiarly adapted to circumstances in that snowy state. It is neatly printed and prettily illustrated.

The societies affiliated with this Association are well aware of the value of printer's ink, and excellent periodicals and leaflets come to us from various quarters of the field. It is a good sign, showing that an organization seeking publicity in this way is doing something worth telling about. That some of the older and stronger Audubon groups should not have done more publishing than they have is rather surprising. Why, for instance, did the Massachusetts State Society wait until now to offer their *Bulletin*? This publication began in February, 1917, and is issued monthly. It is not only a chronicle of the affairs of the Society and a source of information as to protective legislation, educational work, lectures, exhibitions, new books, etc., but carries noteworthy items of ornithological news and pleasant stories of bird-life. Such a bulletin is not only inspiring and valuable to a society as a 'house-organ,' but, as edited by Secretary Packard, may greatly extend the reputation and utility of the Massachusetts Society in all New England. Among other things, the last number reports the remarkable success last winter of the customary course of bird-lectures given in Boston.

In Rhode Island the State Society is represented by the series of *Bulletins* of the Park Museum in Providence, which is in charge of the State Society's Secretary, H. L. Madison. This publication is especially useful to teachers in their nature-study classes.

The Hartford Bird Study Club is the largest and most conspicuous organization of the kind in Connecticut, although the State Society has carried on a far more general educational work in the schools and by means of traveling libraries. No serial publication is supported by either, but the Hartford Club issues annually a *Year-book* that is a model of its kind. Year-books are also issued by several other large bird clubs, especially those of Brookline, and Milton (Brush Hills Club),

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Mass.; Greenwich, Conn.; Meriden, N. H.; Bedford Hills and Rhinebeck, N. Y.; Morristown, Pa.; Somerset Hills, N. J.; and Buffalo, N. Y.

The interests of bird-protection in Ohio, and especially those of the strong Bird-Lovers' Association in Cleveland, are fostered by the pretty little magazine *Blue-Bird*, which was founded by the Ohio agent of the National Association, Dr. Eugene Swope, but is now edited and published by Mrs. E. C. T. Miller, President of the 'Bird Lovers,' at Cleveland. Indiana, Michigan, and the other northwestern states are doing good work through their State Societies, but thus far have not attempted much in the way of publications. It seems a pity *The Wayside* was permitted to expire.

The Audubon Society of Buffalo, now in its ninth year, has long been active in spreading its influence through a regular series of newspaper articles, by the publication of an annual *Bird Almanac*, circulars, yearly reports, and various leaflets. The untiring agent in this useful activity has been Mrs. G. M. Turner, who has held the office of secretary for eight years, but now is retiring because of a change in her residence from Buffalo to Riverside, Cal. Few ladies in the field of Audubon work have been so wise and faithful and have accomplished so much good as has Mrs. Turner in western New York, and a host of good wishes go with her to the Pacific Coast. At the meeting of the Buffalo Society on June 19 she was presented with a certificate of Life Membership in the National Association, the Society paying the $100 fee in recognition of her splendid services.

Illinois, however, is still 'going strong,' not only by constantly sending out several kinds of circulars, migration-records, posters, etc., for local use by teachers and amateurs, and by furnishing to schools traveling libraries and collections of lantern-slides relating to birds, but by the issue twice a year of its *Bulletin*, which is really an illustrated magazine of general interest and value to bird-students.

'The Woodpeckers' Convention,' a playlet by Mrs. F. T. Bicknell, is delighting thousands of children in California.

THE BIRDS' CHRISTMAS TREE
Note small packages of food suspended from limbs. Woodruff Junior Audubon Class, West Helena, Ark.

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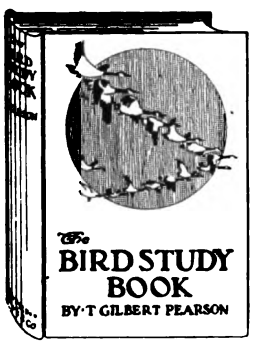

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Bird-Lore

September-October, 1917

CONTENTS

GENERAL ARTICLES — PAGE

FRONTISPIECE IN COLOR—PURPLE AND GRAY-BREASTED MARTINS, BARN SWALLOW..... *Louis Agassiz Fuertes*..

THE SUMMER LIFE OF THE VIRGINIA RAIL. With photographs by the Author..... *Verdi Burtch*.. 243

TWO BLUE JAY PHOTOGRAPHS.....*George Shiras, 3d*.. 249

AMERICAN EGRETS IN NEW YORK CITY. With photograph by the Author..... *Clark L. Lewis, Jr*... 251

NESTING HABITS OF THE CLIFF SWALLOW. Illustrated.....*Manley B. Townsend*.. 252

REMARKS ON THE NESTING HABITS OF SWALLOWS..... 257

AN EXPERIENCE WITH A ROBIN. With photographs by the Author..... *Mrs. J. L. Harrington*.. 259

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS.....*Frank M. Chapman*.. 262

BRONZED GRACKLE .....*Photograph by H. & E. Pittman*.. 263

NOTES FROM FIELD AND STUDY..... 264

A WREN NEST TRAGEDY, *M. C. Nisbet;* THE CAPE MAY WARBLER, *Edward G. Kent;* AN EXPERIENCE WITH AN AMERICAN BITTERN (Illus.), *Wilbur F. Smith;* KILLDEER IN CONNECTICUT, *Robert S. Judd;* A BIRD ON THE HEAD, *L. B. Pettee;* NOTE ON THE BARRED OWL, *W. Edwin Coon;* THE GOLDFINCH, *Theresa Wood;* A LEAF FROM A ROSE-BREAST'S LIFE, *L. Elizabeth Clark;* UNUSUAL VISITORS AT A FEEDING-TABLE (Illus.), *H. N. Henderson;* AN IOWA CARDINAL, *William Norton;* MIGRATION ON THE GREAT LAKES, *Leonard A. Ericson;* SUMMER BIRDS OF SWOPE PARK, *Albert E. Shirling;* NOTES ON THE VARIED THRUSH, *Harold Anderson;* THE WESTERN MEADOWLARK AND OTHER BIRDS NEAR EDMONDS, WASH., *Mrs. Eugene D. Lindsay;* THE BARN OWL'S VOICE, *Joseph W. Lippincott.*

THE SEASON 175

BOSTON REGION, *Winsor M. Tyler;* NEW YORK CITY REGION, *Charles H. Rogers;* PHILADELPHIA REGION, *J. K. Potter;* WASHINGTON REGION, *Harry C. Oberholser.*

BOOK NEWS AND REVIEWS 278

BERGTOLD'S 'A STUDY OF INCUBATION PERIODS'; KUSER'S 'WAYS TO STUDY BIRDS'; FINDLEY'S 'BIRDS OF THE CAMPUS;' THE ORNITHOLOGICAL MAGAZINES; BOOK NEWS.

EDITORIAL 281

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT 282

IMPROVING METHODS OF TEACHING BIRD- AND NATURE-STUDY, *A. H. W.;* JUNIOR AUDUBON WORK; THE SAND-SPIT; FOR AND FROM ADULT AND YOUNG OBSERVERS.

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT..... 293

NOTICE OF ANNUAL MEETING; THE MIGRATORY BIRD-LAW; NATIONAL ADVISORY COMMITTEES; VENEZUELA TO PROTECT EGRETS; BATTLE FOR THE CROPS (Cartoon); NEW MEMBERS AND CONTRIBUTORS; THE FIGHT FOR SONGBIRDS; A DANGEROUS MOVE THWARTED; NEW YORK CONSERVATION COMMISSION.

**** Manuscripts intended for publication, books, etc., for review and exchanges, should be sent to the Editor, at the American Museum of Natural History, 77th St. and 8th Ave., New York City.*

IMPORTANT NOTICE TO ALL BIRD-LORE SUBSCRIBERS

BIRD-LORE is published on or near the first days of February, April, June, August, October, and December. Failure to secure the copy due you should be reported not later than the 18th of the months above mentioned. We cannot supply missing copies after the month in which the number in question was issued.

Notices of changes of addresses, renewals and subscriptions should be sent to BIRD-LORE, HARRISBURG, PA. Each notice of a change of address should give the old address as well as the new, and should state whether the change is permanent or for just one or two issues.

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A Conference with Our Readers

THE RESULTS

THE results of the 'Conference with our Readers,' called for in the last issue of BIRD-LORE, are most gratifying. The vote in favor of an increase in subscription price, rather than a decrease in the size of the magazine, is practically unanimous. But, greatly to our surprise, a large proportion of the voters urge an increase, not from one dollar to one dollar and a half, but to two dollars annually, while many declare that they will not be without BIRD-LORE at any price!

An increase to two dollars we cannot seriously consider. From the beginning it has been the aim of those responsible for the policy of BIRD-LORE to produce the magazine at the lowest possible cost and to increase its size as rapidly as the returns from subscribers permitted. Thus, the magazine has grown from a yearly volume of somewhat less than 250 pages and no colored plates, to one of over 500 pages and a dozen colored plates without increase in the subscription price.

It was our plan to continue to enlarge the magazine to the limit of the purchasing power of one dollar, when, as explained in our last issue, we were confronted by increased manufacturing charges due chiefly to the higher cost of labor and of paper. As a result we have had to decide whether to raise BIRD-LORE's subscription rate or reduce its size.

Reduction in size meant the abandonment of plans for the magazine's betterment and the rejection of many valuable contributions. The unanimous vote to increase the price is, therefore, welcome, not alone as a practical estimate of BIRD-LORE's value, but also because, in conforming to the expressed wishes of our readers, we shall now be permitted to carry out our plans for the magazine's improvement and, we trust, enlargement.

This, however, can be done only by retaining our present subscription list. Our enthusiastic readers who have urged us so emphatically to maintain our highest standards at whatever cost, must realize that there are many subscribers to whom, in these troubled financial times, an increase of even fifty cents a year in the price of BIRD-LORE may be the factor which will prevent a renewal of their subscriptions. We hope, therefore, that our supporters will not only *vote* for a larger BIRD-LORE but will

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work for it. To this end we direct their attention to an announcement on another page.

SOME OF THE 'VOTES'

We trust that the writers of the following letters will pardon us if we yield to a natural temptation to place on record some of their 'votes,' which we ourselves have received with so much pleasure.

It would be a real misfortune to have BIRD-LORE in any way fall from its present standard. I enclose ten dollars toward keeping it as it is. —THEODORE ROOSEVELT, *Sagamore Hill.*

We can not afford to have BIRD-LORE cut down in size. It brings us in touch with the birds of the whole United States, and is full of instruction and interest and arouses the different Audubon Societies to a keener realization of their duty in bird protection and bird education.—MRS. F. T. BICKNELL, *Los Angeles, Cal.*

By all means keep BIRD-LORE at $1.50 or even $2. Those who love birds have a stratum in their natures that stands for better things, even at some small sacrifice.—MRS. CHAS. E. BIRGE, *New York City.*

I cannot do without BIRD-LORE, no matter what the price is.—MAUDE B. CHAMBERS, *Harpers Ferry, W. Va.*

I should not like to see BIRD-LORE smaller. Better charge us the $1.50. You have a mission.—J. F. COOPER, *Providence, R. I.*

There seems to me no question that the magazine should not be cut down and that the price should be increased. —F. N. DOUBLEDAY, *Garden City, N. Y.*

I want to very promptly assure you that for my part I would continue my subscription if you doubled the price, and I hope that you can with certainty arrange to keep the magazine full size and full power.—WM. S. ESSICK, *Harrisburg, Pa.*

For myself, I would gladly pay double the present price and maintain the present satisfactory manner in which the magazine is brought out.—Wishing you success.—S. B. GAVITT, *Lyons, N. Y.*

By all means advance the price of BIRD-LORE to $1.50 or even $2, rather than reduce the size of the magazine. —ROY LATHAM, *Orient, N. Y.*

No smaller magazine for me. Make it $1.50 by all means. By so doing you will be doing your bit for conservation—conservation of the birds means conservation of the fruit crops.—C. O. ROADS, *Groton, N. Y.*

It has long seemed to me to be one of the most valuable magazines published. . . . It therefore seems to me that it would be better to raise the price to $2.—LEE RUSSELL, *Worcester, Mass.*

By all means continue the present standard of BIRD-LORE, even at a price of $1.50 or $2 the year.—CHARLES VAN AKEN, *Elmira, N. Y.*

Quite aside from the pleasure which BIRD-LORE brings to a steadily increasing number of bird students, I believe that there is another and more important reason for keeping this interesting and useful magazine at its fullest point of efficiency. Your article, "A New Threat to Bird-Life" indicates this reason.

I favor most heartily the maintenance of BIRD-LORE at its present standard of excellence at an increased cost in subscription in order to support most effectively the educational and protective work of the Audubon Societies.—TERTIUS VAN DYKE, *New York City.*

I wish to say that the magazine would lose so much by being reduced in size that in my opinion it would be better to raise the price. I'm willing to cut more lawns!—EGBERT WALKER (First Class Boy Scout), Troop 3, *Bay City, Mich.*

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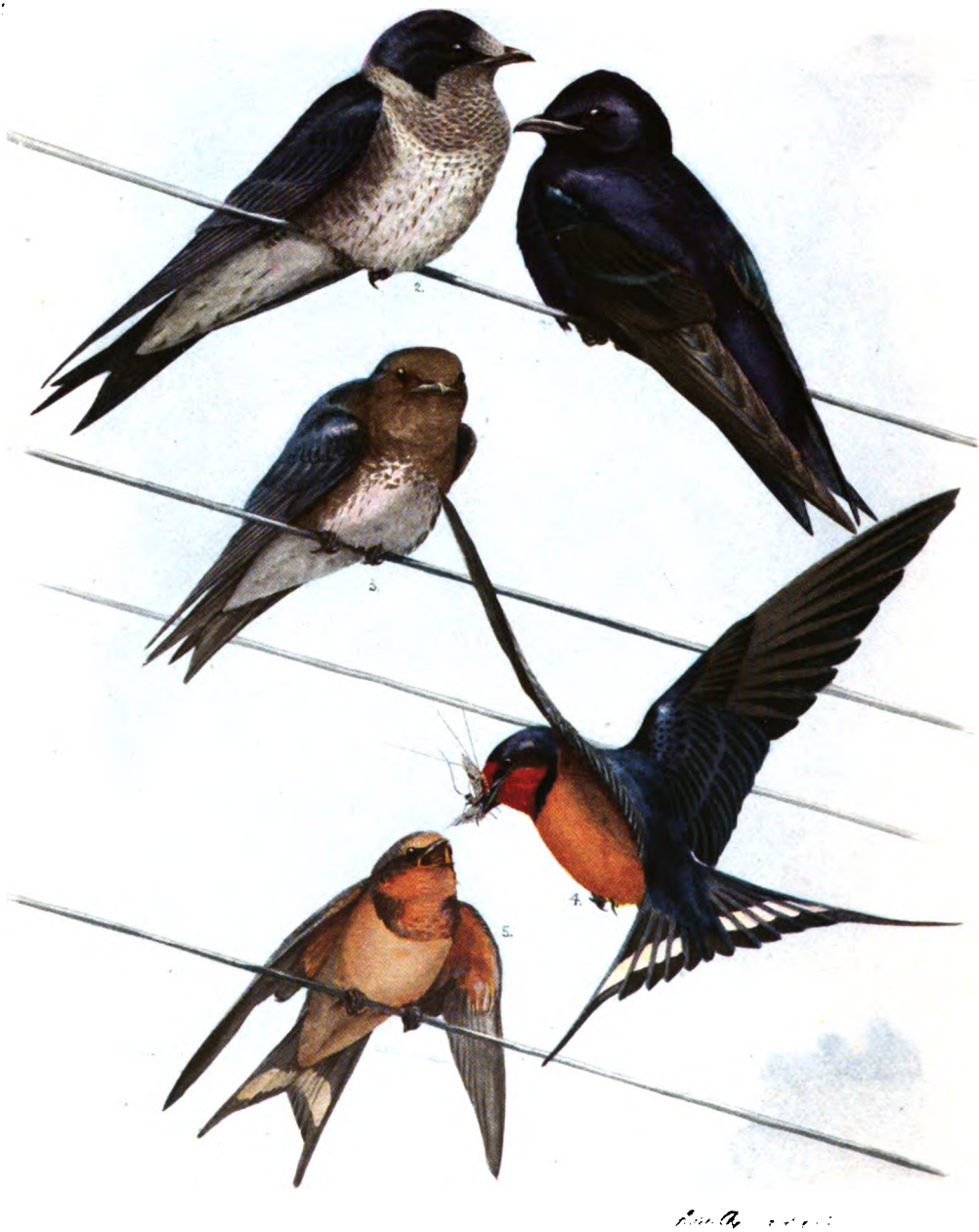

1. PURPLE MARTIN, Adult male
2. PURPLE MARTIN, Female
3. GRAY-BREASTED MARTIN
4. BARN SWALLOW, Adult
5. BARN SWALLOW, Young

(About one-half natural size)

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XIX SEPTEMBER—OCTOBER, 1917 No. 5

The Summer Life of the Virginia Rail

By VERDI BURTCH, Branchport, N. Y.
With photographs by the author

ARRIVING in the marsh at Branchport, N. Y., the last week in April, the Virginia Rail at once makes itself at home, and its grunts and calls can be heard every day from all parts of the marsh. Keeping close in the grass and flags it is seldom seen, but when disturbed it utters a sharp *kep'* and then a grunting noise which is very like the grunting of a pig calling for its dinner. This note is uttered by both sexes. Early in May in the evening and in lowery weather we hear the love-song of the male, *kid kid-ic kid-ic kid-ic kid-ic kid-ic*, he says, then moves along a little way and repeats, *kid kid-ic kid-ic kid-ic kid-ic kid-ic kid-ic*, sometimes keeping it up for hours at a time.

The nesting habits of this beautiful Rail are very interesting, but to study them successfully requires much patience on the part of the observer. A site is chosen in a tuft of grass around the edge of the swamp or near a bunch of bushes. Sometimes it is in a low bush or in a bunch of dead weeds, and again it will be out in the water in the cat-tails. The nest itself is of dead grasses and flags and is cunningly concealed by arranging the dead grass and flags about it in a very natural manner. Later, the growing grass and flags conceal it very effectively. If one gets near the nest he is almost sure to hear the note of alarm and the grunting of the birds as they move rapidly around through the weeds.

On May 11, 1908, the eggs were just beginning to hatch in a nest that I had found some few days before, and, as I approached, the female slipped from the nest and away through the cat-tails. She was quickly followed by the two little ones, although they were but a few hours old. The nest was surrounded by water so the birds had to swim, but even then they managed to elude me. Hoping to get a picture of the nest and eggs I set up my camera, and, while focusing, the mother appeared, carrying one of the little ones in her bill, dropped it into the nest, went on, and settled down to brood.

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This habit of leaving the nest (when disturbed) so soon after they are hatched makes the young very difficult to photograph. However, this can be accomplished by leaving the camera set up and focused on the nest, returning cautiously after an hour or two, when they will have come back to the nest; or the shutter can be released by attaching a thread to the release lever and running it back to some convenient place from which the nest can be seen. The surroundings of the nests preclude one's getting but glimpses of the adults as they scamper about the nest. Last May we were fortunate enough to find a nest in a bunch of sweet flag which stood alone in a rather open place so that the bird had to cross the open when going to and from the nest. On my first

FAILING TO CALL HER YOUNG TO HER SHE CAME AND PICKED ONE FROM THE PIT AND CARRIED IT AWAY INTO THE FLAGS

visit the female left the nest as soon as I came near and ran across into the flags, where she kept running from cover to cover, showing herself but a few times and giving me no opportunity for a picture.

June 13 I was more fortunate. This time she left the nest as before but returned at once, coming at me with wings drooping and feathers ruffled. This she did again and again. She would come right up to and strike the camera. She moved so quickly that it was impossible to keep her in focus, but focusing on a point about four feet away, and following her with the lens until she came in focus, several good pictures were secured.

She came out from cover time after time, running at me with wings drooping and feathers ruffled, and seemed determined to drive me away. I could easily bring her to me by giving the flags by the nest a little shake, when she would give little grunts and run right up to the camera. To catch her with wings drooping was a task. She came so quickly and so close, her image grow-

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ing rapidly until it covered the ground-glass as she jumped up and struck the camera.

June 17 the eggs were beginning to hatch, and there were six silky, black little ones in the nest. Three of them followed the mother when she left the nest and hid in the flags around its base. The three others were not yet dry and with their bright eyes shining lay kicking and struggling to get out of the nest. Soon the mother came back calling softly *ka ka ka ka ka*, and the young ones left their hiding-place and ran to her. One of them fell into one of my

EGGS AND NEWLY HATCHED YOUNG OF VIRGINIA RAIL

foot-tracks, and the mother came quickly and, taking it up, ran off into the flags, carrying it dangling from her bill as a cat carries her kittens. The male now showed himself for the first time. He kept close to the outlying cover, scolding as he dodged in and out among the flags and grass.

Next day as I approached, the female was on the nest brooding and the male began to scold from the cover. A few times he came out and charged at me with wings drooping but did not come close like the female. When the female left the nest, the young (and there was now a nestful) immediately followed, scattering and hiding in the grass. There was now but one egg left unhatched, and the chick came out of it twenty minutes later. Soon after

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WHILE FOCUSING MY CAMERA, THE MOTHER APPEARED CARRYING ONE OF THE LITTLE ONES IN HER BILL, DROPPED IT INTO THE NEST AND THEN SETTLED DOWN TO BROOD IT.

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leaving the nest the mother came back and called softly, when, as if by magic, little animated balls of black appeared to spring up all around and roll to her. I caught ten of them, and, putting them into one of my foot-tracks in the soft mud, they remained quietly until the mother came and called, then, peeping faintly, they tried to climb out. Failing to call them to her, she came and picked one from the pit and carried it away into the flags. I followed at once but before I could catch up with her she had dropped it and came back to meet

WHEN FEEDING THE MOTHER CAME OUT ON THE MUD, A YOUNG ONE FOLLOWING HER

me. I found the little one where she had dropped it, lying on its back kicking and struggling to rise. Again she came and carried another one away, then came back and called softly *kiu kiu kiu kiu*, ending with the grunting noise. Two of the little ones managed to climb out and ran toward her when, calling as she went, she led them into the flags where she remained quietly for some time. During all of this time the male kept to cover, showing himself but a few times as he dodged in and out among the flags. The young are born with their eyes open and gain strength so rapidly that they are able to leave the nest before they are fairly dry. They are covered with long, silky, jet-black down, rather thin on the top of the head and on the wing where

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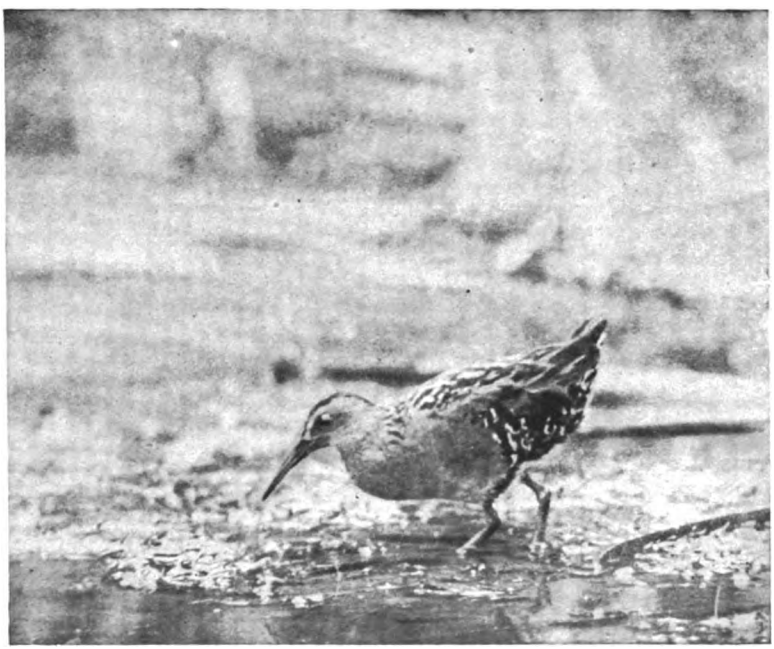
the flesh shows through. The outer digit of the wing is armed with a tiny claw, and they use the wing and claw to help themselves over obstacles and in climbing into the nest. The bill is fleshy horn-color with a black ring around the middle, the tip being white on the upper and black on the lower mandible.

Later in the day the female met me about three rods from the nest, and no little ones could be found except the one last hatched which was still in the nest. A few days later none of the family was to be found.

Late in July both parents and young will be found on the muddy shore where they feed and dodge back into the flags at the least sign of danger. At this time the young are about half grown and still keep their downy appearance. When feeding, the mother comes out on the mud, a young one following, and when she finds a choice morsel it is there to receive it. Back in the flags the other young are following, uttering plaintive peeps. As soon as one is fed it returns to the flags and another one comes out to take its place.

Here on the mud and in the flags they can be found every day, the young developing rapidly, the down giving way to black and dark brown feathers, until early in October when they leave for the South.



VIRGINIA RAIL, FEEDING

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A MARQUETTE (MICH.) BLUE JAY

AN ORMOND (FLA.) BLUE JAY.
Two Blue Jay photographs by George Shiras, 3d

[The last photograph made by Mr. Shiras before leaving his summer home at Marquette, Mich., in October, 1916, was of a Blue Jay at his feeding-stand beneath the balsams.

The first photograph he made after reaching his winter home at Ormond, Fla., was of a Blue Jay at his feeding-stand under the cabbage palms.

The Blue Jay is migratory only to a limited extent at the northern limit of its range, and this incident illustrates its wide distribution and the strikingly different conditions under which the species lives. Hence, we have two races, a large, pale Northern Blue Jay, and a smaller, darker Florida Blue Jay. The differences in color between the two forms can be seen in the photographs.—ED.]

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A NEW YORK CITY EGRET

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American Egrets in New York City

By CLARK L. LEWIS, JR., New York City
With a photograph by the author

LAST summer (1916) three beautiful American Egrets (*Herodias egretta*) made their appearance in Van Cortlandt Park, New York City. They were reported to have arrived on July 16. As the neighborhood appealed to them, they settled down in the vicinity of the pond, at the southern-most extremity of the Park, and remained for a number of weeks. The birds finally disappeared, one by one, the first to leave quitting the Park sometime around August 10, the next, a few days later, and the remaining Egret on October 10. Their roosts were located somewhere in the northern part of the Park woodlands, just where I do not know. At the approach of dusk the Egrets would rise into the air and fly northward. Their flight was slow and graceful, and often I would watch them until they were lost from sight in the darkening horizon. Every morning found them back at the pond where they spent the long summer days, feeding upon small fish, insects, and other forms of Heron food.

The neighborhood of the pond seemed far too civilized and noisy to warrant any length of stay for these birds, whose habitual haunts are semi-tropical swamps and marshes. The pond is bordered on the north by a much-used automobile road-way, on the east by a branch line of the New York Central Rail Road, on the west by Broadway with its noise of passing vehicles, Subway trains, trolley cars and never-ceasing crowds of pedestrains, and on the south by a small strip of land which boasted of a few trees and wild vegetation. Tall grass formed a border around the pond. The water was practically open and thus afforded the Egrets plenty of room to move about.

However, this change of atmosphere and surroundings did not seem to trouble these beautiful white creatures, but made them rather unsuspecting and fearless. Excellent observations of the birds, some as close as eight to ten feet, were obtained. On September 9 I took several photographs of the remaining bird. The one shown here gives a characteristic pose.

[To one who has known the Egret when every man's hand was raised against it, and nearly every woman's head bore the aigrette plumes which gave eloquent, if silent, testimony to her heartlessness, it is as surprising as it is pleasing to observe that under proper protection this beautiful bird may again become a part of our lives.

In a vain effort to rob it of protection in New York, the milliners' agents claimed that the Egret did not belong to the fauna of that state, but the photograph and observations of Mr. Lewis are welcome evidence to the contrary. (See also Mr. Rogers' note on page 276.)—ED.]

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Nesting Habits of the Cliff Swallow

By MANLEY B TOWNSEND, Nashua, N. H.

IN a former issue of BIRD-LORE I asked the question, "Do Cliff Swallows ever build upon painted barns?" That the query was of more than ordinary interest is attested by the many letters I have received bearing on the subject. Believing that the readers of BIRD-LORE will welcome the results of this correspondence, covering a wide territory, from New Brunswick to Oregon, I am boiling down and digesting the important facts and here offer them for comparison and study. The value of coöperative effort in determining any fact is here clearly demonstrated. Local conditions often cause local habits. Only comparative study over a wide area can give conclusive testimony.

Wm. J. Cartwright of Williamstown, Mass., writes: Up in the hill town of Savoy, Mass., a typical backward New England farm community where I chanced to visit this past summer, I found great numbers of these birds. One colony had thirty nests and another twenty-eight, all of which had young birds in at the time. Others had fifteen or more nests and the remains of many former nests. In every case they were on unpainted barns. In one case the farmer had accumulated enough money to paint three sides of his barn, yet the colony of about thirty pairs of Swallows still built their nests on the remaining unpainted side where they have built for a number of years. It will be interesting to see if, when the remaining side is painted, they seek new quarters.

But I did find one exception. On one painted barn I found five nests, three of which were occupied. The barn was built of rough unfinished boards and painted red. They were on the east side of the barn, directly over the barnyard, where the old birds spent a good deal of their time catching the many insects about the damp yard. It is significant that this was an exceptionally small colony for that locality, all others being at least three times as large. Several hundred yards on either side of this barn there were unpainted barns, but there were no nests of Swallows on them. These barns were on abandoned farms, or were used for the storing of hay, and so no cattle were about them to draw the food-supply of the Swallows.

Has anybody else noted a like circumstance in regard to these Swallows and their nesting-places?

Mrs. G. E. Barton, of Holland Patent, N. Y., writes that when she was a child in a pioneer town, from 1876 to 1880, at Glyndon, Minn., she used to see "thousands of Cliff Swallows' nests on painted buildings. The N. P. R. R. reception house was 200 feet long and painted white. It harbored Swallows the whole length, and sometimes nests overlapped. The same was true of the schoolhouse and other buildings." It is not stated whether or no the boards to which the nests were fastened were painted.

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Rev. Ceo. Roberts, Jr., of Lake Forest, Ill., writes that "a colony of Cliff Swallows have for years nested under the inner eaves of the large piazza of a hotel in the Adirondacks, New York state. The hotel is an old structure, painted white. The nesting is of annual occurrence." On inquiry, Mr. Roberts was unable to recall whether or no the eaves against which the nests were plastered were also painted.

Mrs. J. F. Merrill, of Northwood Narrows, N. H., reports two colonies on painted buildings, one on a white schoolhouse and another on a red barn.

Althea R. Sherman, of McGregor, Iowa, writes about a barn built seventy years ago on which the Cliff Swallows formerly built three rows deep. The building has been remodeled and painted. Six years ago only five or six nests remained, and the last time visited there was but one nest. The species is reported very scarce in that section of Iowa, and its scarcity is attributed to "that miscreant, the English Sparrow." There is probably much truth in this explanation. Personally, I have known the English Sparrow to take possession of the nests of the Cliff Swallows, though not very often. In some parts of the country, however, they may be more troublesome. I used frequently to pass a large colony of Cliff Swallows, the nests of which were built on an unpainted barn near Sioux City, Iowa, where the English Sparrows were abundant. This is a point that will bear further investigation. Who has any information upon it?

BARN SWALLOW TURNING
Photographed by A. A. Allen, Ithaca, N. Y.

Mrs. Emma P. Farr writes of a small colony of Cliff Swallows nesting last year on a painted ice-house near Union Village, Woonsocket, R. I. "The painting was done with yellow ochre, mixed with oil. The birds have not returned this year, and early in the fall last year's nests had all fallen off." Mrs. Farr asks if nests on unpainted buildings drop as easily. To this query an emphatic negative may be given.

Mary E. Raker, thirteen years of age, writes an interesting letter from Portland, Ore., showing keen observational powers in one so young. She reports one nest built against a gray house under the eaves of the gable end. There were a few unoccupied nests from previous years.

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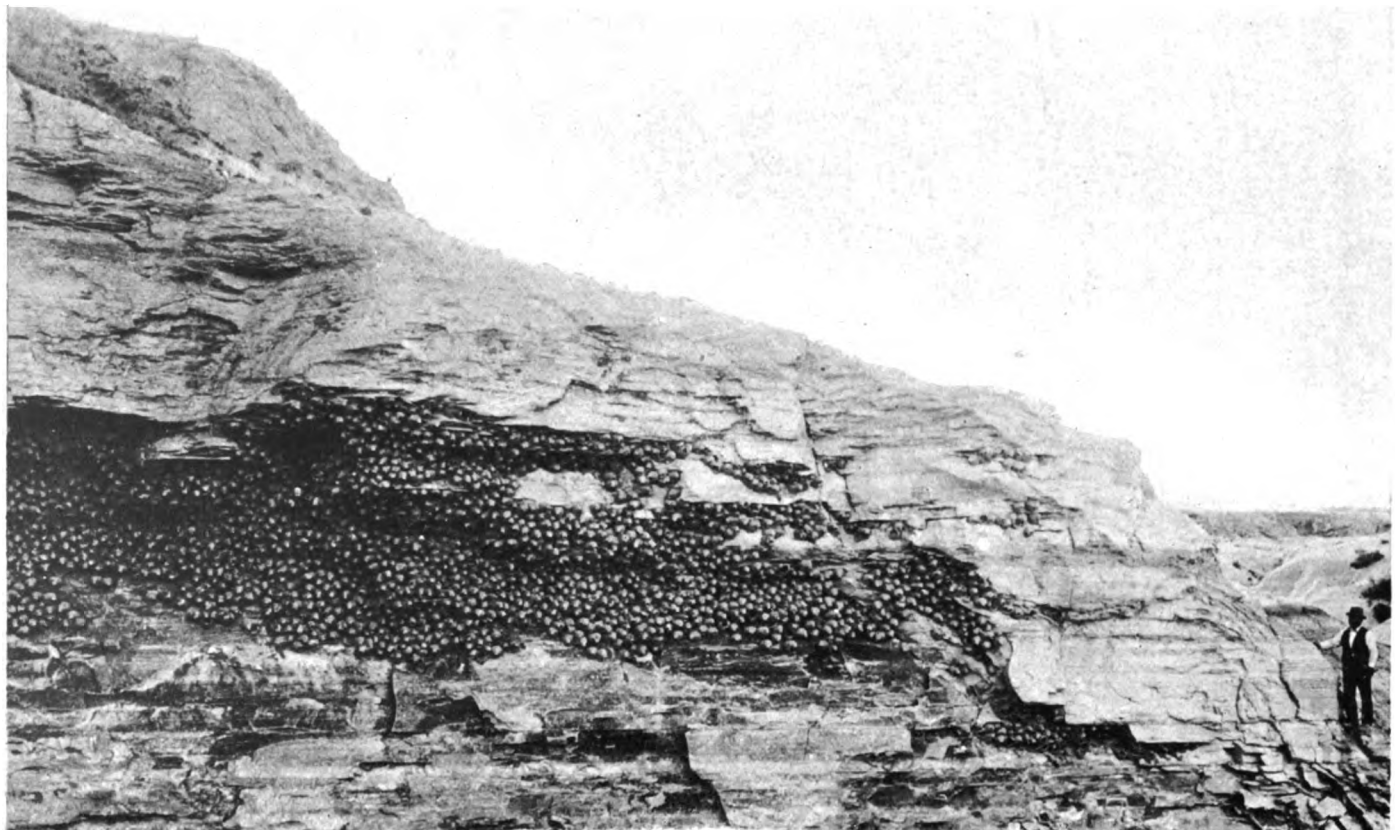

BEFORE THERE WERE BARNS. NESTS OF CLIFF SWALLOWS IN RUSH COUNTY, KANSAS
Photographed by S. W. Williston

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Mr. Howard H. Cleaves writes from the Public Museum, New Brighton, N. Y., to the effect that he has observed a colony of a dozen pairs of Cliff Swallows on a set of farm buildings at East Jewett, N. Y. "Three or four of the nests are under the eaves of an old barn which has no paint, but the remainder are attached to a smaller outbuilding which wears a yellow coat." Mr. Cleaves also reports two pairs of these Swallows breeding on a red barn between Boardville and Erskine, N. J. "The paint was scarcely more than a stain. One nest was attached to timbers that had been treated with this stain, the other was located on an untouched area." In June, 1911, Mr. Cleaves noted "three or four nests of Cliff Swallows attached to a stucco barn or shed at Lenox, Mass." He also calls attention to a reproduction of a photograph taken by Fred B. McKechnie of a colony of Cliff Swallows at Lunenburg, Vt., and published on page 341 of the March, 1914, issue of the *National Geographic Magazine*. The building on which the colony is located is obviously painted, though a narrow moulding nailed along the side of the structure insures the nests against disaster by falling.

Mrs. Al. Bayhouse, president of the Idaho Audubon Society, reports a colony of forty-two nests of Cliff Swallows built under the eaves of a barn at the Soldiers' Home at Boise. The barn is painted dark red, trimmed with white, and the nests "were on the white boards under the eaves." There were about three hundred birds in the colony. Mrs. Bayhouse also reports one occupied nest on a white house last year, and another on "a barn painted some dark shade."

One of the most interesting reports was from Dr. Guy C. Rich, of Los Angeles, Cal. Dr. Rich, who was for many years the leading ornithologist in northwestern Iowa, says that he has found the Cliff Swallows nesting in the sand-pits along the Big Sioux River near Sioux City, Iowa. I quote from his letter—"While you make inquiries about the choice of painted barns for Cliff Swallows, ask if anyone has noticed them breeding along with Bank Swallows in a dirt bank. I am not sure that you ever visited the sand-pits up on the Big Sioux, but I saw the small mud pellets plastered along the entrances of several holes and found the eggs in some of the burrows." This is truly a unique observation. Has this been noted by anyone else?

Now for my own personal observations this summer of 1916. I have examined with great care thirty-four colonies and here append the result of my investigations. The nests were located in New Hampshire, Maine, and New Brunswick. Five of these colonies were on painted edifices and all the rest—twenty-nine colonies—on buildings innocent of any evidence of ever having been painted. Several of the colonies on unpainted barns were very large, many of them comprising from three hundred to four hundred birds.

Of those on painted buildings, the following facts will be of significant interest. On a large painted barn at St. John, New Brunswick, a large colony had built upon a supporting cleat under the eaves. A similar case was observed

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at Machias, Maine, where a large colony had built on a painted barn, the nests supported by a wide cleat. A painted outhouse in Kennebec, Maine, had a few nests under its eaves. At China Lake, Maine, forty nests were noted stuck on the unpainted boards of a dark red barn. Most of the paint had worn off. A painted schoolhouse in Northfield, Maine, had a half-dozen nests plastered under the painted eaves, but the boards were noticeably rough, affording a good clinging surface. The scars of several nests on the smooth painted boards of another schoolhouse in Wesley, Maine, were noted. The site had evidently been abandoned as unsafe. It may here be noted that last year I observed a painted barn and a painted hall, both in New Hampshire, upon both of which were the scars of Cliff Swallows' nests. The birds had not repeated the experiment.

At a certain farm a set of five buildings, three painted and two unpainted, had nests on the two unpainted buildings and none on the others, although (excluding the house) they were apparently as well suited for nesting purposes as those chosen.

An interesting observation was made at an abandoned farm in Washington County, Maine. Both Cliff and Barn Swallows were abundant. Hundreds of both species were nesting *inside* the big barn, a smaller building, and a lean-to shed. Has anyone else ever noted the Cliff Swallows nesting inside buildings? The nests were built precisely as usual when located under the eaves—bottle-shaped, with entrance at the lower end. They were attached to the rafters.

The facts here given, covering a belt of territory reaching from ocean to ocean, may be thus summarized:

1. Cliff Swallows prefer unpainted buildings, and the greater number of colonies are found thus situated.

2. These birds frequently choose a painted building if there happens to be a supporting cleat under the eaves. Some farmers especially provide such an accommodation. The colony may be large in such a case.

3. When the space under the eaves is left unpainted, the Swallows do not object to painted buildings.

4. Birds that nest in colonies are very tenacious of their ancient breeding-places. They will often accommodate themselves to changed conditions that would ordinarily repel them. When the mangroves in which the Pelicans nested on Pelican Island, Fla., were destroyed, the birds built upon the ground rather than leave their ancestral homes. The tall pines near Nashau, N. H., in which a large colony of Black-crowned Night Herons nested were cut down last year. The birds simply moved a few rods away to small pines in a much less favorable situation. When an unpainted building long occupied by Cliff Swallows is at last painted, the birds are extremely reluctant to leave and will continue to breed there unless repeated disaster by the falling of the nests forces them away, as some woodland plants will continue to grow in the open after the forest shelter has been removed.

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5. Colonies on painted buildings, with the nests attached to painted boards, are not unknown, especially if the boards are rough. Colonies thus situated are usually small—from one to a half-dozen nests—occasionally a few more.

6. Nests built against paint drop off easily and discourage the return of the birds. On unpainted buildings the nests usually persist and are generally repaired and used for two or more successive years.

7. Cliff Swallows have been known to breed in the abandoned burrows of Bank Swallows and to build inside, as well as outside, farm buildings.

8. The English Sparrow is a nuisance. His continued presence has a tendency to reduce, if not to completely eliminate, the Cliff Swallows. He should be exterminated.

Remarks on the Nesting Habits of Swallows

By ARTHUR H. NORTON, Portland, Maine

DO Cliff Swallows ever nest on painted barns (or buildings)? is a question asked of BIRD-LORE readers, to which I answer "They certainly do." Why they so seldom nest on painted structures in the Northeast, is probably due to the same old reason why black sheep eat less than white sheep, or because there are less of them. The practice is, I feel sure not exceptional, yet the case is one of those in which I can cite but few instances with absolute certainty, nor can I with equal certainty recall more than three unpainted structures upon which Swallows nest, though I have observed many nesting colonies.

At White Head Island, Knox County, Maine, a United States Life Saving Station was built in 1874, with rafters supporting long eaves, finished with panels. Like all other stations and lighthouse establishments, this was kept heavily coated with white paint. On the Island at the time was a large old barn, with eaves formed by butts of shingles only, and unpainted. I had never known the Eave Swallows to nest on it, nor on the old-fashioned house near it, but the birds soon discovered the new station with its long eaves and formed a large colony there, where they remained for many years, or until the old eaves were remodeled, joining a shed-roofed boat-room on one side. I have not seen the house for some years, and do not know whether the birds still find a nesting-place there.

The dirt of this large colony of Swallows on the otherwise immaculate building, was a source of irritation, to say the least, to the keeper, my father, and each year the resolution to prevent their occupancy was announced, but through his sympathy for the birds and my own pleading for them, they were allowed to remain. My father's house on the same island, also painted white, was occupied by a smaller colony of the birds.

These Swallows are very partial to the immediate vicinity of the sea, where

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the warehouses, barns, and fish-houses, on which they nest in large numbers, are seldom or never painted.

Though known as Eave Swallows, they are by no means confined to the eaves of buildings for nesting-places but not infrequently enter the buildings and nest on the rafters as the Barn Swallows do, though building their own covered nests. I recall several instances of this kind, notably the long rain-shed of the lighthouse establishment at White Head and the boat-house of the same place, where I knew them to nest year after year.

On the other hand, a pair of Barn Swallows departed from their nominal habit of barn nesting and built under the eaves of our house (on a little shelf) until ousted by the increasing colony of Eave Swallows.

When the old glass-sided box, with its perforated tin cone for ventilator, within which a lamp was carried, gave way to a more or less modern lantern, a knot was picked out of one of the ends of the barn loft, and the old glass-sided lantern fastened up over it, for a 'Martin house.' For, though the bird-house idea has recently engaged the attention of city men "to the westward," the settlers along the coast of Maine have had their 'Martin houses' for three or four generations, and they were as much a part of the well-ordered 'place' as was the bed of bright flowers of European origin brought over by the great grandmothers of an earlier generation.

Surely, "Westward the course of empire takes its way," even with bird-houses! Nor has the old custom been forgotten in this generation of urban invasion, for many of the old farms along the country roads, and even the temporary camps of fishermen on the outer islands, still support 'Martin houses.'

To return to the old lantern in the barn loft, though its glass sides were objectionable to its intended tenants, it was usually occupied. One year it was taken by a pair of Barn Swallows, who certainly raised one brood in it. The nest, like that of the Tree Swallow was *without mud*.

On Matinicus Seal Island, though several open fish-houses existed and were occupied by Barn Swallows, one pair nested for some years (perhaps yet) on a niche of a wall of rock. I found the nest in June, 1896, containing four eggs, and remarked that it was but a few feet above the surge of the breakers. The nest was of the usual type.

On our coast the Tree Swallows are commonly known as 'Martins,' and are abundant, nesting in the numerous hollow stumps, hollow limbs, and tree trunks, and in niches in buildings affording a dark retreat.

Prostrate hollow logs dying in the open on the ground often are used as nesting-places. One of my earliest recollections is of an old wooden pump laid on the ground in a pasture, which was occupied as a breeding-place by a pair of these Swallows for several years. They are the ready and almost exclusive tenants of the coast Martin-houses already mentioned. Unlike their kin, they do not form colonies, being jealously watchful and pugnacious toward all birds of similar nesting-habits, including their own kind.

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An Experience with a Robin

By MRS J. L. HARRINGTON, Altamont, N. Y.
With photographs by the author

ONE evening just about dusk during the first week in June we discovered that our neighbor's cat had a little baby Robin cornered ready to pounce upon it.

We took the poor frightened bird and placed it on the barn roof in hopes that the old birds would come and care for it. But it was fast getting dark and they never came. Knowing that the cat would have the little Robin before I would be up in the morning, I fed him and put him in a basket partly filled with hay for the night.

The next morning I opened the basket and fed him a worm or two and some bread and milk. Then he tried to tuck his head under his little wing and went to sleep.

After he had had his nap we put him out where the old birds might see and hear him but they did not return. We had to care for him until he was able to

BOBBY ON ONE OF HIS DAILY VISITS

look out for himself. He was so young that downy feathers were still in his plumage and there was just a mere beginning of tail feathers.

My husband built a large airy cage for the little Robin, and we put him out on an upper porch, and he chirped, and ate and slept and grew like any healthy child.

The first day or two he kept trying to get out but he soon got used to his cage and was apparently happy. He learned to answer to the name Bobby and would chirp back every time we called him. At first he did not know how to pick up his food. He just opened his mouth and let us put the food in it. I would dip my finger in water and he would open his mouth and catch the

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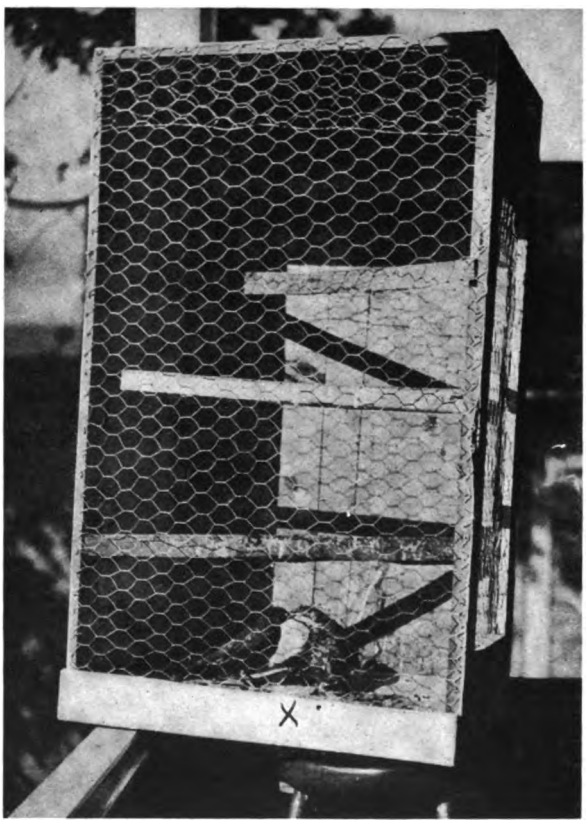
drops from my finger. After we had had him about two weeks he began to pick up food for himself though he still liked to have us feed him.

Just about this time my neighbor came running over with another baby Robin, which she had taken right out of the mouth of that same cat, and wanted to know if I would adopt it. This one was older than Bobby was when we got him, and was so frightened that he would not eat. I worked over him for a couple of hours but he would not open his mouth. At last, I tried to open it, thinking if I could only get one worm in he would eat. That frightened him



BOBBY FEEDING THE LITTLE BIRD

so he fainted away, so I gave up and put him in the cage with Bobby as soon as he became conscious.

Bobby was inclined to peck him at first, but by night had grown quite friendly toward him. The next morning Bobby didn't eat well. He kept taking food in his mouth but did not swallow it. I was occupied so could not wait to see what evidently happened. But from the sounds that came from the porch Bobby was feeding the little one.

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After breakfast we went out to feed them some worms. The little one would not take a thing from our hands and did not know enough to pick them up. Bobby would take a worm and break it up in inch lengths and have his mouth full of the pieces but would not swallow. We were puzzled. Just then Bobby hopped up to the little one and pecked him twice on the bill. The little one opened his mouth and in went the pieces, one at a time.

From that time Bobby took entire charge of the little one and would not eat a thing himself until the little one was so full he refused to eat any more.

Bobby would still eat from our hands and twitter and flutter his wings just as the little Robin did when he fed him.

From the first week we had Bobby he would take a bath every day. The third day after we had the little Robin, when I put the basin of water into the cage he went right into it. Bobby hopped up on the perch nearby chirping and twittering and went through all the motions of drying his feathers though he was not wet a bit. I wondered if he were trying to teach the little one. They both enjoyed their bath and on real hot days went into the water two or three times.

They both looked alike and we could not tell whether they were both males or females. We fed them worms, cherries, berries, scraped beef, and bread and milk and they grew rapidly.

After we had had them six weeks we let them go as they seemed strong enough and old enough to care for themselves. The younger one having been bird-fed, flew away and we never saw him again; but Bobby came back every day and took his bath and let us feed and pet him.

The wild Robins were horrid to him. They would fly at him and even when he was within six feet of me they would fly down and pick out a bill full of his feathers. We never could understand why they disliked him so.

Every day I would go out into the garden and call Bobby and he would come flying down at my feet or alight in a branch near my head and take whatever I offered him or just talk to me in his bird language. He came to the upper porch, usually about 12.30 P.M., every day for his bath. He was so tame we were afraid the cats would get him for he did not watch out like the wild birds.

One day I saw the same cat that had caught them in the first place coming from the garden. I hurried out and called Bobby but he did not come and we never saw him again.

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Notes on the Plumage of North American Birds

FORTY-FOURTH PAPER

By FRANK M. CHAPMAN

(See frontispiece)

Purple Martin (*Progne subis*, Figs. 1, 2).—As the plate figuring a pair of this species clearly shows, the adult male and female may be readily distinguished, but the young male, even in its first breeding plumage, cannot, at a glance, be distinguished from the female.

In its nestling, or juvenal plumage, the male is essentially like the adult female. This plumage it retains until after it leaves us for the South. Some time during the winter the postjuvenal molt occurs, and the bird acquires its first breeding plumage. This bears a general resemblance to that of the female but has a scattering of the steel-blue feathers of the adult male, which are more conspicuous in the gray underparts than above. At the succeeding molt, which also takes place after the bird migrates, and doubtless therefore in its winter quarters, the adult steel-blue plumage is acquired.

It is interesting to note that Martins and Swallows, birds which make extended migrations, leave for their southern homes before gaining the fresh set of feathers which we might imagine they would require before embarking on their long journey. Possibly their aërial habits leave their plumage so little worn, that even after breeding it is still serviceable and, unlike that of vegetation-haunting species, in condition to meet the demands made by migration.

The Eastern Purple Martin (*Progne subis subis*) is found locally throughout the United States and southern Canada, except on the Pacific coast where it is replaced by a closely related race, the Western Martin (*Progne subis hesperia*), the male of which resembles the same sex of the eastern bird, but the female is decidedly paler and whiter below than the female of *Progne subis subis*.

Gray-breasted Martin (*Progne chalybea*, Fig. 3).—The Gray-breasted Martin is a species of tropical America which ranges as far north as Texas. It is smaller than our North American Martin, but both sexes so closely resemble the female of that species that for many years Texas specimens of *chalybea* were considered to be Purple Martins. Their true identity was made known by Mr. W. De Witt Miller ('The Auk,' XXIII, 1906, p. 226).

Barn Swallow (*Hirundo erythrogaster*, Figs. 4, 5).—The male Barn Swallow averages brighter in color and, in some cases, has a longer tail than the female, but the sexes are often alike in color and size and cannot therefore be distinguished by external characters.

The young bird (Fig. 5) on leaving the nest is much paler below and duller above than the adult, and the outer tail feathers, which, when fully grown add so much to the appearance of the Barn Swallow, are not more than half an

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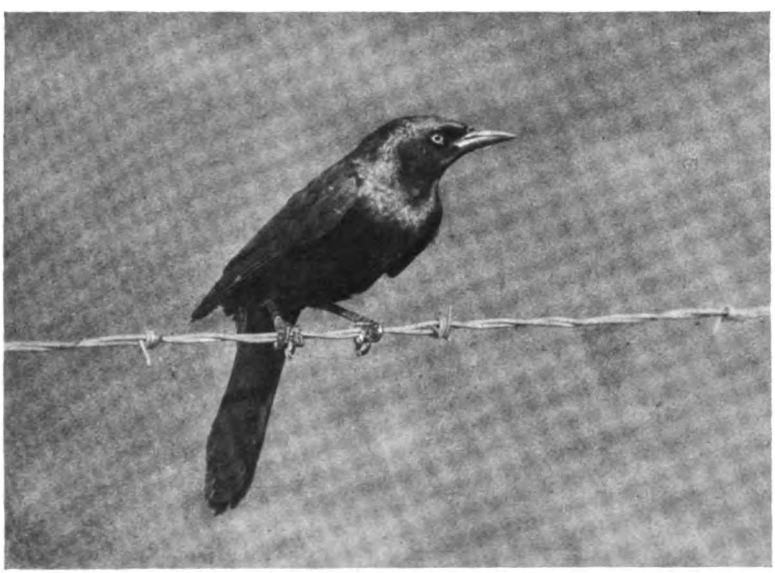
inch longer than the central ones. However, they seem to answer all the requirements of successful aërial navigation. Not only are the young birds' first flights made with evident ease and precision, but, contrary to the rule among passerine birds, they migrate to winter quarters before changing this nestling plumage for their first winter dress. For this reason we do not yet know exactly when the postjuvenal molt occurs, nor do we know whether there is a spring or prenuptial molt.

Dwight records specimens from South America which were completing their molt in February, but whether it was a postjuvenal or prenuptial molt cannot be determined.

A specimen taken at Corumbá in southwestern Brazil, March 23, is in fresh plumage and has evidently just completed a molt, but no traces of the preceding plumage remain, and one cannot therefore say whether it was that of the adult or of the immature bird.

A specimen taken December 19 at Juntas de Tamaná in western Colombia, still wears the nestling plumage. It is not conceivable that this bird would have both a postjuvenal and prenuptial molt before returning to us in its breeding dress, and it therefore indicates that the young bird, at least, molts only once after leaving us, and that at this molt it acquires the plumage of the adult.



BRONZED GRACKLE
Photographed by H. and E. Pittman, in Manitoba

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Notes from Field and Study

A Wren Nest Tragedy

On May 30, 1916, I noticed the Wrens had not built in the hanging Wren-house, so I cleaned it out thoroughly. In less than an hour a pair were hard at work and soon the nest was finished and a Wren was on the nest.

Then one day I noticed great excitement. Madam would not go in or near the house. Her mate coaxed and coaxed with continual singing, from house to tree and over again. Such scolding from her and twittering and fluttering!

Finally she flew to the roof of the house but only for a second, then away, then back again. Then she tried the porch, a hole in a post, anywhere for a nest, then back to the house and in. She looked as though she was trying to pull the nest to pieces. Then away and back, pulling at it three different times. Then both flew away, and I never saw them again.

Upon investigation I found she had pulled out her three eggs, put tiny holes in them, and thrown them on the ground. Has any one ever heard of a bird doing that before?—M. C. NISBET, *Irvington-on-Hudson, N. Y.*

The Cape May Warbler

I was interested in reading in the April, 1917, issue of BIRD-LORE the statement regarding an increase of the Cape May Warbler.

For several years past I had not seen one of these Warblers, but during May, 1916, they appeared in comparatively large numbers in and near Boonton, N. J.

This was true of many others of the Warbler family; those uncommon in former years being present in large numbers, particularly Bay-breasted and Blackburnian Warblers. There were days when numbers of the birds were to be seen in the trees and shrubbery, and it was possible to get very close to them so that they could be easily identified, even without the use of glasses.—EDWARD G. KENT, *Jersey City, N. J.*

An Experience with an American Bittern

One day last fall a newspaper in a nearby city printed a story of a "strange bird in a battle with two savage bulldogs" and told how the local constable, whose aid was sought to shoot the bird, captured it by throwing a blanket over the bird's head and identified it as a "Spanish Corseva," common in Argentina.

It sounded like a real nature-faking story, yet thinking some member of the Heron family was in trouble, I traced it, after considerable effort, to an old stable, where, in a dark corner, I found an American Bittern.

The bird may have hit a wire or the branch of a tree and fallen to the ground in someone's dooryard, where it was attacked by the dogs, but it was useless to try and make the people believe the bird had not been the aggressor and first attacked the dogs.

The Bittern did not appear injured, though weak from lack of food, the whole corn offered by its captor not being relished as a substitute for small fish and frogs, so I thought to take it to the shore and let it go where food was plentiful.

I had often heard stories of wounded Herons striking at people's eyes. Nevertheless, I was taken unawares when the Bittern, with a lightning-like thrust, gave me an exhibition of how she speared fish. Fortunately, the blow fell on the end of my nose and again within an inch of my eye, causing the blood to flow freely, and after that I kept my face out of range.

I wanted a photograph of the bird before letting it go, so focused my camera on a rock where I placed the Bittern and jumped back, planning to press the bulb before she flew away, but I was much sur-

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prised to see her 'freeze,' when picture making became easy.

While I remained still, with a movement so gradual as to be almost imperceptible, the Bittern would stretch out her neck and turn and start to walk away, but at a call or a clap of the hands she would 'freeze' again, and then repeat the stealthy effort to slink away.

At times the wings would be dropped to the ground and the crest feathers raised, and when facing me the mass of breast feathers would be fluffed out, giving her a formidable appearance which I imagine caused her captor to run for the blanket.

AMERICAN BITTERN

After getting all the pictures I wished, I gave her a toss into the air and she flew off and alighted on the shore at the edge of some salt-water grasses, and so perfectly did the yellows and browns of her feathers blend with the yellowing grasses that she seemed to vanish from sight, and I left her hoping she would have better luck on her nest journey southward.—WILBUR F. SMITH, *South Norwalk, Conn.*

Killdeer in Connecticut

During the fall of 1916 while repairs were being made around the dam of one of the local reservoirs, the water was lowered about eighteen inches. This laid bare a great area of lake bottom at the upper end where the water is normally shallow and where a rich growth of vegetable and minute animal life had existed. In fact, the conditions very nearly duplicated those existing around western prairie sloughs in the summer as the water slowly recedes by evaporation leaving exposed such a wealth of food for the waders.

It was late in the afternoon, October 29, while out walking that we first noticed these unusually favorable conditions and saw at that time, besides a Solitary Sandpiper and one Greater Yellow-legs, a

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flock of five Plover which I was reasonably sure were Killdeer, but, unfortunately, the glasses were at home and in the waning light I could not be positive of such an important identification.

On the next visit to the lake, November 11, we were delighted to find the Plover still there and this time were able to make sure that they were really Killdeer. Having known them in Dakota it was like meeting old friends, and it was with the keenest pleasure that I followed them from one muddy flat to another as they nervously and cautiously kept their distance.

It was hard to estimate the total number correctly. While on the flats, all would 'freeze' as we approached, and but for an occasional low nervous *dee* we might well have passed them by, so well did their colors blend with the ground, but just so near, and then with plaintive notes of alarm a bunch of ten or twelve would jump as one bird to fly and wheel in close formation and alight at a safe distance. Often on our going forward a second bunch would fly from the same vicinity, and I was able to count at one time twenty birds on the wing which I feel was very near the total frequenting the lake.

Once a cover of low thick bushes near the shore enabled me to approach close to some feeding birds, and it was indeed a treat to watch at one time so many of these birds now so rare in the East.

Now that I have the Killdeer on my list as an old friend new found in Connecticut, I have one great pleasure of like sort to look forward to, and that will come when I first find on our hills that splendid bird, familiar in the West, with all the romance of the Open in his voice, the Upland Plover.—Robert S. Judd, *Whitneyville, Conn.*

A Bird on the Head

I wonder if a belated bird-story will interest you and the readers of Bird-Lore? Last summer while standing by our R. F. D. mail-box I was suddenly aware of the distressed cry of a small bird, and almost instantly felt it alight on the top of my head. Another instant it was gone, and I at once felt a rush of air and the flap of larger wings, and was amazed to see a Sparrowhawk pursuing a very small bird which took refuge in shrubbery close to the house. Now why did the little bird light on my head when there were vines, trees, and shrubs all about and the mail-box screened by golden glow taller than my head?

I add another story quite as true as the first:

A friend sitting under our trees was given a carnation which was placed in her hair. Very soon after a Ruby-throated Hummingbird fluttered over her and dipped into the flower a number of times. —L. B. Pettee, *Salisbury, Conn.*

A Note on the Barred Owl

On January 8, 1916, I visited a bird food-box which had been erected in a rather extensive wood-lot not far from town. On this trip I noticed a small gray mass containing bones at the foot of a tree a few feet from the food-box. Near this were the tracks of a squirrel, with wing marks in the snow on each side. On account of limited time, the gray mass was not examined but the place was kept in mind. On January 31, a special trip was made with the idea of identifying the Owl, which had been seen at a distance a couple of times before. It was found a short distance from the food-box, but its shyness made a close approach difficult. However, this time I managed to get close enough to obtain a good, clear view and found it to be the Barred Owl.

Now, as my curiosity was aroused concerning the food of the Owl, I proceeded to the place where the pellet had been seen and examined it. The greater part consisted of small bones and gray fur, in a compact mass. Eleven more pellets were found beneath the same tree. These, together with the first one examined, were found to contain the bones of either one or two rodents. The same place was visited on March 24, 1917. This time forty pel-

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lets were examined—thirty-four beneath the same tree and six under a neighboring one. All of these contained the bones of rodents. One particularly large pellet had the jaws of five rodents in the mass. Of the remaining pellets, one held the jaws of three rodents; several, two; and the rest, one each. One pellet had a large snail-shell crushed while another one had a small shell, whole. A couple more had the remains of a single crawfish in addition to a rodent each. Eight pellets, composed of fur and rodent bones, were examined March 31. Judging from the shape and coloring of the various jaw-bones, I should say that at least three different kinds of rodents had been devoured.

Of all the pellets that were examined—sixty in number—not one yielded the remains of a bird.—W. EDWIN COON, *Conneautville, Pa.*

The Goldfinch

For days, one January, the Goldfinch note was in the air. When the first bird who sang it came near enough to show the green of his bronze coat and sang his summer song in his winter voice, I winked, grinned, kicked one foot with the other, went through all the wakening exercises one dares with a bird fifteen feet away. I was surely awake.

He faced me with a breast without a sparrowy mark, turned upon me a back of softest greenish bronze, and just as I opened my heart to him the tree over my head was filled with his brethren.

Looking him up in my meager library, I find that, like the poor, him "we have always with us." Like the poor, also, he endures much, lives on little, and keeps cheery under a stress that sends many of his stronger, better-equipped brethren to a softer clime for the winter.

Next time you see him in July, harvesting thistle and dandelion seed, in his summer dress of gold, set off by his jaunty cap and epaulets of nature's own black, or when he dances over your head to the tune of his own *per-chick-o-reel* try to think of him in sober bronze, cap and shoulder-straps gone rusty, and with the same diverging flight, fighting a winter's blast.

Like the summer girl in her winter suit, the fluff all gone out of her attire, but like her, too, the summer's gold and sweetness stored in the stronghold of his heart to bubble out in the very face of the winter. It was the same cheery song, only just gone mellow ripe.

The children came calling, one July day—

"Oh, Auntie, come quick! Some Goldfinches are killing a little green bird!"

Four male Goldfinches and one female were making a kaleidoscope of the ground in front of the house. We reached them, finding the little green bird limp, though warm. One male went away but the war continued between the other three over the dead body of the little lady.

Withdrawing a little way we watched. The situation soon disclosed itself. Two of the birds would light by the dead beauty, and how the feathers flew. I could scarcely hold the children back from storming the little savages. She had a knight of her own color, however, "whose strength was as the strength of ten because his heart was pure."

It was pounce and dart! Dash and counter-dash, for a minute or two and the two brigands retired to the 'phone wire across the street. Sir Galahad lit beside his lady fair, fluttered about for a minute or two, and then took station on the light wire overhead. The same program was carried out at intervals for half an hour. If one of us went near or picked up the dead bird her champion hovered around, and when we laid her down, satisfied himself no new harm had come to her and then took up his watch, the marauders looking on.

Toward night their interest seemed to wane, and they finally went away singing *per-chick-o-ree* as blithely as though murder had not sullied their hearts.

Not so Sir Galahad. Late bedtime found him still at his vigil. Morning and noon of the next day found him there. But in the afternoon he was gone. The boys

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buried his bride—was she? It was their mating season. Had the belle of the flock, after near a year's flirtation, made choice of the truest heart of them all? Or had the sister of the household displeased by her mating?

How quickly we read romance into all that has its seeming. One thing I know, when a flash of gold, or a merry *per-chick-o-ree* brings the dastards to mind, the picture fades, but Sir Galahad in his lonely vigil stays. He has done what he could to redeem the reputation of his race.—THERESA WOOD, 4071 *Sisson St., East San Diego, Calif.*

A Leaf from a Rose-breast's Life

One Saturday afternoon in June, 1913, I discovered a tiny birdling in my front yard. It was very scantily covered with yellowish down and so weak it could flutter only a few feet along the grassy lawn. I did not know what it was until, after retiring to the front porch, I saw a mother Rose-breasted Grosbeak intently guarding it, from a buckeye tree nearby. She did not feed it often; perhaps it was too young to need much food.

The next morning, on stepping out onto my kitchen porch, where a plum tree reaches over the doorstep, I was surprised to see both father and mother Grosbeak within a few feet of my head, watching me intently and apparently with great concern.

Usually they are shy birds, but they did not fly, and approached very near my face. Meanwhile I was looking in every direction to discover the baby bird. The parents seemed so distressed I turned to go in the house, when, there behind me, huddled in the corner of the porch, was the young bird. I hurried indoors but they evidently feared for its safety and soon removed it.

Later in the day another little one, weaker than the first, appeared on the front lawn watched over by the mother while the male guarded the older one in a rose bush in the back yard.

Monday was cold and cloudy. Soon after noon it grew dark and a storm threatened. Mother Grosbeak guided her little one under a hard maple tree nearby, and, a foot or more from the ground, onto a dead branch that lay under the tree.

The foliage of the tree was very dense, a light shower would not have reached the little bird. But the storm was very severe. The wind blew violently and rain poured in torrents. The dead branch shook and the heavy rain beat upon the tiny form; but it remained motionless except as the wind shook the branch. Later the wind grew less, but rain continued, and I think it rained all night. It was very cold.

Early next morning I looked out with little hope of seeing my bird, but there it was, just where it had been all afternoon the day before. It was still raining and the mother watched from the tree above.

About eleven o'clock the rain ceased. Then the object of my solicitude hopped down as lively as you please, evidently calling for an early dinner. Oh, the wisdom of that mother! Had she permitted her little one to remain on the ground it would have been washed down the terrace to the driveway and carried out to the street gutter.

For about twenty hours the little nude creature clung to its perch, apparently as lifeless as the branch on which it rested, and was pelted by the cold storm.

That afternoon the whole family disappeared. I thought I had lost them, but was delighted about two weeks later to see all four of them again in my trees. Young birds, like little children, love the water. Again and again they came to drink or splash in the pan a few feet from my kitchen window. I greatly enjoyed watching the change in the plumage, especially of the male bird, as the weeks passed. The family life of the Grosbeaks seems ideal. They surely enjoy each other, and I saw the four in my trees almost daily the rest of the summer until migrating time.

Bird students tell us of seeing so many dead bodies of little birds after a storm.

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The wonder is that so many survive the storms that are often frequent during the nesting season.

I had a large bittersweet vine winding spirally round the trunk of a large tree.

One day, when a storm was threatening, a mother Robin coaxed her little one onto the trunk of the vine. She tried to have it go farther up around the tree. When she did not succeed, she hopped up beside it and pushed it up the spiral stalk until it was around on the east side and close to the trunk. The storm soon came from the west but the little bird was safe and dry. —L. ELIZABETH CLARK, *Galesburg, Ill.*

Unusual Visitors at Feeding-Table

With photographs by the author

For several years we have maintained a feeding-table in our back yard. We live in a town of about five thousand inhabitants, and our home is just two blocks from the center of town, a corner lot 60 by 160 feet. We have four peach trees, two plum trees, one cherry tree and a large honeysuckle vine on back porch. On lot adjoining, and along our line, is a grape-arbor and a walnut tree, making just a reasonable amount of perching for the birds.

The feeding-table is 2 by 3 feet, supported by a bracket attached to a post, under the outer branches of a peach tree. We find it convenient for the birds to have a perching-place before alighting on the table, yet the Blue Jays and Woodpeckers often fly direct to the table. On two of the trees, and on top of the post on which the table is attached, we have suet. For several winters we have had for regular boarders, Chickadees, Titmice, Cardinals, Blue Jays, Woodpeckers, Nuthatches, Song Sparrows and Robins.

Last winter and this we have had two unusual visitors, and for this reason I send you this article, together with the photographs, so that none may doubt the truth of this statement. On February 6, 1916, a Towhee appeared on the table. He seemed very shy at first, but on finding plenty of feed whenever he wished, he soon became accustomed to the surroundings and remained with us until in March, when it became warmer, and he no doubt started out to find his mate.

We have found several male Towhees wintering in this locality each year in the timber where they could find food and shelter, but we have never known one to appear in town at a feeding-table.

On December 18, 1916, a Mockingbird appeared on our feeding-table. To say that we were delightfully astonished is

MOCKINGBIRD EATING WALNUTS

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putting it mildly. We knew at a glance it was a Mockingbird, but we lost no time in calling in our bird-loving friends, all of whom were delighted to know that we had such a rare winter guest. He very quickly made himself at home and was soon sole owner and overseer of the coveted feeding-table. He seemed to have a distaste for the bright colors of the Cardinals for he took great delight in chasing them out of the yard. He tried to drive the Red-bellied Woodpecker from the table, and a battle ensued such as we have never witnessed among birds. The Red-bellied was not going to be driven, as he had several years' prior claim. They would flutter in air, facing each other, drop to the post and branches of the tree, the Red-bellied with mouth open, and one time he hung with back down for probably a minute waiting for the next thrust, but the Mockingbird finally won. All the birds would watch their chance to get their share of the food when the Mockingbird released his vigilance. When he wants his meal all must go but the Blue Jay which he did not try to conquer, although he shows a disposition to fight if he dared.

A TOWHEE ON THE FEEDING-STAND

He moves out of the way but never runs. At this writing, March 12, 1917, he is still very much at home.

The Mockingbird is an occasional summer resident in this county (Clinton). Possibly three or four pairs are reported every summer from widely separated localities in our county, but why this one remained over or where it came from will always be a mystery to us. He eats walnut kernels, crumbs, and suet. We have never seen him eat sunflower or any kind of seed.

This winter we have had at our table the following birds: male and female Hairy, male and two female Downies,

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one male and female Red-bellied, two Flickers, eight Blue Jays, two Bronzed Grackles, five Song Sparrows, one Towhee, eleven Cardinals, one Mockingbird, one Carolina Wren, one White-breasted Nuthatch, two Tufted Titmice, three Chickadees, two Robins, and have seen in the yard but not at the table, one Sparrow Hawk, one Screech Owl, and one Brown Creeper.

I have a 22 rifle and with BB caps keep the English Sparrows thinned out. I raise the window slightly or open the door just enough to see out, and the explosion is all inside the house, so that the report does not alarm the other birds. I have killed Sparrows not a foot from the other birds and not frightened them. They look down at the fallen Sparrow and wonder what's happened.

The Cardinals, Song Sparrows, Mockingbird, Robins and Towhee roost in vines on the back porch. The Cardinals and Song Sparrows sing all winter. We have heard the Song Sparrow singing happily when the thermometer registered below zero. The last few days the Towhee sings in a low voice almost constantly, a rolling almost continuous warble reminding us of the whisper-song of the Catbird, possibly a little louder. He returned to us again this year about the time he came last year. We feel certain it is the same bird, for he went immediately to the feeding-table and made himself at home.

Bird-lovers who have not provided a feeding-table for the birds are missing the greatest pleasure in their study.—H. H. HENDERSON, *Wilmington, Ohio.*

An Iowa Cardinal

For two winters—fierce Iowa winters when the mercury may sink to sixty degrees of frost—the Cardinal has neighbored with us. Against the background of our Iowa snows, with his fiery tropic plumage, he is as *outre* as a palm in Iceland.

The 'Kentucky Cardinal' of James Lane Allen is a shy and timorous bird. He conceals himself in the cedars and shrubbery of the garden. *Peace, peace, peace* he softly sings. But my Iowa Cardinal is more aggressive than the Blue Jay or the English Sparrow; his obtrusions are dramatic and spectacular; his *tzip, tzip, tzip,* is a song of battle. Almost any morning at breakfast we may see him perched upon a branch of Japan lilac just outside the window. Thence he launches himself, a flaming thunderbolt, directly at us. Hurtling through six or seven feet of air, wings and tail-feathers wide outspread, he strikes the upper window-pane and falls to the snowy sill. He gasps for breath, his little bill opening and closing. His tail twitches with excitement. With an occasional *tzip, tzip,* he hops along, pecking fiercely at the glass. Then flying straight upward he strikes the upper pane a glancing blow and whirls back again to his perch upon the lilac. Discouraged? Not at all. Try, try again, is his maxim. For hours he gives us an exhibition of aëronautics as fascinating as that of Sea Gulls astern the ship. And all so close at hand. I wish I had a movie film of it. And many a summer afternoon as I am working in the garden I hear the red bird assaulting a basement window screened by a tall barberry.

When the Cardinal began rapping at our dining-room window at breakfast we imagined that he was asking for admittance. He is trying to come in out of the alien cold to his native Louisiana warmth, to shelter, to food, and good friends within. To test this theory we left the window open, but the game was off, the Cardinal flew away.

We failed to understand our Cardinal because we did not look at things from his angle. With my eye at his precise viewpoint on the lilac branch, I found that he could see nothing within the room; the glass was not an invisible barrier, but a broad and perfect mirror. What he saw was another Cardinal, a rival, alert, aggressive, his black beady eyes aflame with war, his wings stirring for attack. The Cardinal may confuse the objective and the subjective, but his strategy is classic. He believes in a swift offensive. He strikes and collects his justifying causes later.

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I wish I knew what the English Sparrow thinks who often sits on an upper limb of the lilac and watches the battle with his head cocked on one side, an impartial neutral.

"What has the long war brought you, my fiery terror, but headache and disappointment! That other Cardinal, why attack him? he hasn't disturbed you, he doesn't keep you from sitting in the sun. Isn't the world wide enough for you both? Look at me, I raise family after family of Sparrows every summer, and yet there is room for all!"

The war at the window-pane has gone on now for two years. The Cardinal still is attacking his own image, attacking his own hate, his own dreams of conquest, his own belligerency. Fortunately, the object of his attack is a phantom image and not a peaceful neighbor of flesh and blood. Yet I fear for the consequences. Stout as is my Cardinal's little bill, it seems that it must be broken by the multitude of blows he strikes the unyielding glass. If it is an ancestral habit, this of beating against barriers, a Lamarckian might explain the blunt bill of the species by impact. Just so Rudyard Kipling explains the long-drawn trunk of the elephant as the result of tension. But even if my Cardinal's bill is not broken or worn to a frazzle, even if his little neck-bones are not dislocated by the furious blows he strikes, what must be the results in character? Battle, I fear, is already a fixed idea. The Cardinal sees red continually; he has gone war mad. Yet in the past, in Kentucky, it would seem that the Cardinal, according to James Lane Allen, was a peaceful bird, a lover, so to say, of philosophy and poetry. It can not be our Iowa environment which has so changed him. No, safe in the interior of the continent Iowa is pacifist to the core: It must be the cosmic *krieglust* which has obsessed the Cardinal. He will never cease fighting until, quite worn out in battle, his black flag still wrapped above his breast, he lies dead upon the ground. —WILLIAM NORTON, *Mount Vernon, Iowa.*

Migration on the Great Lakes

I have spent about fifteen years of my life on the Great Lakes and have always taken a great interest in the migratory birds we had as passengers every spring and fall.

I have counted as high as 1,000 songbirds on a 500-foot steamer at one time. They come aboard during a fog, and if it turns to rain in the night, most of them perish from cold. I hit upon a way of saving thousands, during the fifteen years I spent on the Lakes, and I'll tell you how.

In the spring of 1903, on the steamship "F. B. Morse," we anchored near the Apostle Island group in Lake Superior, in a heavy fog. We had the biggest bunch of migratory birds on the vessel I had ever seen. I counted over one thousand, just before dark. As second mate I had the anchor watch, from 6 P.M. till 12.

About 8 o'clock a cold rain began to fall, and the poor birds, unable to find shelter, fluttered around the electric lights thicker than flies. They soon began to fall on the deck exhausted, and that is their 'finish' unless you can get them right away into a warm place. I went back in the galley and got a small basket and started picking them up. As soon as I had the basket full, I carried them into a steam-heated room and dumped them on the floor. I picked up over four hundred birds that night, and every one survived.

We arrived in Ashland about daybreak, and I went in to look at my charges before turning them out. They were a varied bunch. Warblers, Wood Thrushes, Finches, Song Sparrows, and Highholders, a few Catbirds, and others I couldn't classify, not being very well versed in ornithology.

I shall never forget how beautiful the Wood Thrushes looked. I counted just six of them, and they were not at all afraid when I picked them up.

After feasting my eyes on them a few minutes I opened the door, and in two minutes the room was emptied. I felt more than repaid for the little trouble I

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had when I saw them on their way across the bay.

After this I saved birds' lives every spring and fall in the same way. I think a good deal could be done by erecting bird-shelters on the steamers plying the Great Lakes. This would only cost the owners a few cents and would save thousands of our feathered friends every spring and fall. Just a little box between the hatches here and there, where they would find shelter from the rain would do. The birds get very tame while aboard a vessel and will almost eat out of your hand.

A few minutes on the cold steel deck in a rainstorm soon 'keels' them over, so let us start a campaign among the vessel owners to have some bird-shelters built.—LEONARD A. ERICSON, *Duluth, Minn.*

Summer Birds of Swope Park

This report is based upon a census of the summer birds of Swope Park, Kansas City, Mo. This park covers an area of 1,332 acres. The greater part is well-wooded upland with hills having rather steep, rocky slopes and ragged limestone cliffs.

A small stream, the Blue River, flows through the park and furnishes some alluvial flood plain. Other smaller streams leading into the river furnish moist, well-wooded regions suitable for certain species. Other parts of the park are quite dry in summer.

Parts of the park are frequented by great crowds of people, while other rather extensive areas are quite secluded and offer shelter for the more retiring species.

The census was begun the second week of June, after the migrants had left. It was conducted by carefully traversing a different section each morning and listing the singing male birds, every effort being made to avoid an overestimate of the numbers.

A total of 2,026 male birds was listed, representing 74 species. Supposing each of these were paired, there would be over 3 adult birds to the acre in the park.

The birds that love semi-seclusion head the list, while the more sociable species like the Robin, Thrasher, House Wren, Rose-breasted Grosbeak, Chipping Sparrow, English Sparrow, and Orioles are fewer.

The Indigo Bunting heads the list with 164 male birds; the Tufted Titmouse, 158; Black-capped Chickadee, 153; Red-eyed Vireo, 86; Downy Woodpecker, 76; and Kentucky Warbler, 74, come next in order listed.

Nine species of Sparrows and their relatives were listed, with 402 male birds. (English Sparrows were not included in the census.) There were 12 species of Warblers with 244 males, the Kentucky Warbler leading with 74 males; 5 species of Vireos with 102 males, the Red-eye taking the lead; 5 species of Flycatchers with 156 males, the Great-crest being the most numerous; 3 species of Woodpeckers with 150 males, the Downies taking the lead.

The Turkey Vulture took the lead among the raptores with 16 pairs. (Probably underestimated, the rock ledges being quite favorable for this species.)

Conditions in the park are unfavorable for water birds, 3 Green Herons being the only representatives of this group.

A few other comparisons include: 41 pairs of Cowbirds, 73 Blue Jays, 42 Crows, 6 Whip-poor-wills, 1 Nighthawk, 27 Acadian Flycatchers, 22 Scarlet Tanagers, 8 Summer Tanagers, 4 Bob-white.

There were more Cerulean and Parula Warblers than Robins or Bluebirds; more Red-bellied Woodpeckers than Red-headed Woodpeckers. The Wood Thrush leads in the Thrush family with 55 singing birds.—ALBERT E. SHIRLING, *Kansas City, Mo.*

Notes on the Varied Thrush at Bellingham, Wash.

Of the winter birds here the Varied Thrush is perhaps the most abundant, equaling, if not surpassing, in numbers the Rusty Song Sparrow, Oregon Junco, and a few others which can be considered common.

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The birds appear in the woods along Whatcom Creek about the middle of November (November 14, 1914), and depart in April (April 26, 1914; April 16, 1915). Although they are supposed to be "resident in coniferous forests throughout the state from sea-level to limit of trees," I have never observed one here during the summer months.

Upon their arrival the birds are shy and do not allow a very close approach; later, however, especially if the ground is covered with snow, they can be frequently found among the houses in the city, sometimes even coming upon the steps if food is placed there.

In the woods the birds are usually found upon the ground, searching for food among the leaves. When one approaches they rise quickly, uttering a short *clut*, and fly into the nearest tree. Though their size and shape are much like that of the Robin, their position and manner when perching are different. They assume a stiff, leaning-forward attitude, the stripes on the sides of the head exaggerating the length of the bird. If the observer persists in following them, they will always keep a safe distance ahead.

I have heard nothing that might be called a true song from these birds, though call-notes are numerous. Perhaps the most common one which, strangely, is heard most frequently on rainy days, is a drawn-out *ū*.

The winter of 1915–16 was an unusually severe one for this part of the state, and consequently a large number of the birds were deprived of their customary amount of food. As there were many birds in the back yard, I placed some boards upon the snow and covered them with bread crumbs. A few minutes later a half-dozen birds were there. One Varied Thrush, the largest and most conspicuously colored, immediately drove the others away and took possession of the food. As this continued for some time and the others were deriving no benefit from the food, I divided the food and placed half of it farther away. Now, when the birds returned (for they had flown out of the yard when I approached) the fun began. First one would dart down and seize a piece of bread. At once, like a flash, and with the feathers on his head raised in anger, the tyrant would be after him. At the same time, another which was waiting for just this opportunity, swooped down on the other food-board. By the time the Thrush could get back the other would be gone, and with it a piece of food. Thus back and forth for nearly half an hour the fight for possession continued, the others always the victors, for invariably they secured a crumb. Finally, he tired and flew away, and the others, without fighting, ate the food. Later some English Sparrows arrived, but, as they did not disturb the Thrushes they were not disturbed themselves.—HAROLD ANDERSON, *Bellingham, Wash.*

The Western Meadowlark and Other Birds near Edmonds, Wash.

Usually each spring and autumn flocks of Western Meadowlarks, ranging in number from twenty to forty, come to our farm called 'Fruitdale.' But neither last spring nor at the present time (October, 1916) do I see more than one or two of these birds at a time under the apple trees or in the fields. I attribute the reduction in their numbers to the heavy snows which covered the ground in January and February, 1915.

During the snowy weather we set a table in the rose-garden, only a few feet from the house, and on top and beneath it we scattered grain and apples. Daily, for more than five weeks, we saw various ones of the following birds (those named first came in largest numbers): Varied Thrush, Red-shafted Flicker, Junco, Song Sparrow, Towhee, Robin, and Chickadee. Several times we saw Brewer's Blackbird, Yellow-bellied Sapsucker, House Finch, California Quail, and Gambel's Sparrow. One weak Meadowlark came now and then. It stood about, apparently trying to pick up the grains of wheat when undisturbed by Varied Thrushes or Flickers. One day, in a grass-plot cleared of snow

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for the chickens, I saw the same Lark, or another, probing in the wet grass for food. —Mrs. Eugene D. Lindsay, *Edmonds, Wash.*

The Barn Owl's Voice

A person once described as 'abominable' the night noises made by Owls, and though true bird-lovers will never agree with him, it would have to be admitted that the Barn Owl is no 'true songster.'

After listening night after night to the harsh screams, and even louder growling, rattling noise he can make, sounds which in the dark hours fairly make the shivers jump up and down one's spine, I can well imagine that woods could seem haunted and that, in the silent flopping flight of the big whitish bird, any superstitious person could see a ghost or almost any uncanny being of the visionary world. Like young Crows, the young of the Barn Owls receive the care of one or both parents for a long time after they can fly, and during all this period, as well as earlier, they make their strange clamor at feeding-time.

As I write this—August 25—a number of their weird rasps come from nearby trees. I have grown to like the sounds. They began at dusk when out of the swamp stole one of the parents, like a white shadow, straight to the hollow in a partly blighted chestnut tree that stands alone in the pasture. The old Owl circled the tree; then out flew a young one and then another and another until five shadowy white forms flopped apparently aimlessly around and around the pasture, amid screeches, which on other evenings I have heard half a mile and which are simply inimitable. This has happened nearly every evening throughout August and September in the years I have spent here.

It is one of the old Owls that makes the growling rattle which, reverberating among tree trunks, sounds almost like a menagerie let loose. The sound seems usually to be made while the bird is flying with, or to, its mate. When coming toward one it is truly terrifying, particularly if in some gloomy recess of a wood. The Barn Owl itself is such a queer-looking creature that even country boys look upon it with dread, and Crows awake into a perfect frenzy when they find it. And yet was there ever a creature more innocent of meaning offence to man or bird? Every disgorged pellet of fur, bones, and teeth which I could find has been examined without discovering a sign of feathers.

Mice, destructive little creatures, almost fill the bill-of-fare, and these Owls are very clever in hunting them. A 'mousey' spot in a field is silently quartered again and again, with intervals between during which the Owl sits on a tree, fence, or building nearby and listens and watches. Mice come out of hiding after danger has apparently passed and sooner or later are caught off their guard. Down swoops the circling Owl, then up again and off to the waiting young who see the dangling mouse from afar and raise their voices in joyous clamor. It is not a beautiful sound, but to the thrifty farmer it heralds better, bigger crops. The old half-dead chestnut tree, unsightly as it is, has a lease on life as long as it can harbor Barn Owls.—Joseph W. Lippincott, *Bethayres, Pa.*

THE SEASON

III. June 15 to August 16, 1917

Boston Region.—Following a late, rainy spring, the summer proved typical of New England—ideal summer weather in June, periods of intense heat, high humidity, and drought in July relieved by the thunder showers of early August.

The nesting birds laid full sets of eggs which, in the main, hatched successfully,

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in consequence, presumably, of the abundance of moisture. The Baltimore Oriole and the Warblers were so delayed in arriving on their nesting-grounds that they built ten days or so later than normal. The Woodcock, however, arriving on time, were not delayed in nesting and, in spite of the backward season, brought out their broods at the usual date.

A marked diminution in numbers was noted in the following breeding species: Wood Pewee, Warbling, Yellow-throated and Red-eyed Vireos, and Yellow Warbler. The Wood Pewee and the first two Vireos have been becoming gradually less numerous in this region for some years, but until this season the Red-eyed Vireo and the Yellow Warbler have shown little or no change in numbers. Throughout the season the song-birds sang little. The species which were present in increased numbers were the Ruby-throated Hummingbird, Field Sparrow, Nashville Warbler, and House Wren. For the last few years the House Wren has been steadily regaining its former haunts in eastern Massachusetts from which it was driven, some forty years ago, by the House Sparrow.

The first evidence of the autumn migration which I saw in Lexington was a Tennessee Warbler on August 11.—WINSOR M. TYLER, *Lexington, Mass.*

NEW YORK CITY REGION.—Possibly the chief feature of this summer hereabouts, and one generally noticed, has been the late continuance of the song-season of many species of birds, perhaps correlated with the unusual luxuriance and freshness of the foliage in mid-August. For instance, Mr. John Treadwell Nichols heard individuals of Bob-white in full song at Mastic, L. I., on August 20; Song, Chipping, and Field Sparrows, August 19; Towhee, August 18; Wood Pewee, Grasshopper and Henslow's Sparrows, Scarlet Tanager, and Robin, August 12; Wood Thrush, August 11; Long-billed Marsh Wren, August 5; Pine Warbler, July 30; and the writer noted Song Sparrows still singing in northern New Jersey on August 19 and House Wrens on the 12th. All these are late dates, especially for the Wood Thrush and Robin, which usually stop singing by the first of August, and for the Pine Warbler, usually silent by the end of June.

One of the few definitely determined breeding-stations of Henslow's Sparrow on Long Island is at Mastic, where Mr. Nichols noted this year an apparent extension of the occupied area to points a mile and a half further north and four miles further west.

Very welcome visitors have been an unusual number of American Egrets. What is most probably—to judge from one slightly drooping leg—the same individual that was the last to leave Van Cortlandt Park last October, has returned there, and there are several other records from Mastic, Quogue, etc. Mastic further notes several Little Blue Herons.

The southbound shore-birds have been arriving on time, with Dowitchers and Willets as near the city as Long Beach. Two Pintails and a Mallard at Mastic on August 12 are the earliest records for Long Island. On the other hand, none of the small land bird transients regularly present by mid-August has been reported. —CHARLES H. ROGERS, American Museum of Natural History, *New York City.*

PHILADELPHIA REGION. — Normal weather conditions prevailed throughout June and July, with the exception of heavy rainstorms which commenced on July 9 and continued with little intermission until the 12th. During this time three and one-half inches of rain fell. The cold May weather set back to some extent the nesting operations of some of the late migrants. A normal number of young seemed to be present in the woods and fields, however. The only setback being caused by the storms above mentioned, just how much native birds suffered I can not state, but I can say with certainty that young House Sparrows were killed in large numbers. I have noticed that these storms are more severe on House Sparrows than on native birds.

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About June 20, I noted Purple Grackles, Starlings, and Doves roaming about the country for their daily ration. At this time these birds commence to assemble in a definite roosting-place at night, and as autumn approaches and the birds increase, these roosts become the rendezvous of great numbers of Grackles, Starlings, Robins, Doves, and other birds.

Mid-July usually brings the first flight of Swallows, or, if we live along the seacoast, the first flight of shore-birds may be noted. I noticed the first flock of Barn Swallows this year passing over on July 24. A few days later I heard the migratory lisp of some lone Warbler. I have often found the Northern Water-Thrush to be the first real fall migrant of the Warbler family. I have observed it the last week in July, but not this year. This bird seems to be a sort of forerunner of the vast host of Warblers that pass southward during the months that follow.—J. K. Potter, *Camden, N. J.*

The Washington Region.—The aftermath of this spring's remarkably late and irregular migration extended well into June. Nearly all the late migrants remained beyond their usual time of leaving, and several broke the record for the lateness of their stay.

Those of the latter category are as follows, the dates in parentheses being the latest previous dates of departure:

Least Flycatcher, June 2 (May 20, 1904); Gray-cheeked Thrush, June 3 (May 31, 1907); Chestnut-sided Warbler, June 2 (May 30, 1891); Bay-breasted Warbler, June 5 (May 27, 1888); Black-throated Green Warbler, June 10 (May 30, 1907); Magnolia Warbler, June 4 (May 31, 1909); Mourning Warbler, June 7 (May 30, 1907); and the Rose-breasted Grosbeak, June 3 (May 30, 1907).

A few of the other transients that remained into June, and much later than common, with, in parentheses, the dates on which they have been in previous years latest seen, are:

Blackburnian Warbler, June 2 (June 3, 1907); Black-poll Warbler, June 8 (June 16, 1907); Canadian Warbler, June 2 (June 2, 1907); and the Tennessee Warbler, June 3 (June 6, 1910).

Of our usual summer Heron visitors, the Little Blue Heron appeared on July 21, when Mr. Francis Harper saw four in the white plumage at Dyke, Va., which date is much earlier than ordinary, though the earliest is July 16, 1904. The American Egret and the Great Blue Heron were reported on July 29 from near Arlington, Va.

A few birds have been more than ordinarily numerous this summer, enough so to draw comment from local observers. This applies particularly to the Cedar Waxwing, the Bob-white, and the Purple Martin.

Early in August a large roost of Purple Martins was discovered in one of the parks in the city of Washington. At the present writing the birds are still here in large numbers, and, on account of the unusual interest of this occurrence, further details will appear in our next report.

As the writer was absent from Washington during practically all of the months of June and July, almost all of the notes above given have been furnished by Mr. and Mrs. L. D. Miner and Mr. Francis Harper.—Harry C. Oberholser, Biological Survey, *Washington, D. C.*

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Book News and Reviews

A Study of the Incubation Periods of Birds: What Determines Their Lengths? By W. H. Bergtold, M.D., M.Sc. The Kendrick-Bellamy Co., Denver, Colo. 8vo. 109 pages.

Dr. Bergtold bravely attacks a problem which has ever aroused the interest of ornithologists, by assembling all the available facts and theories relating to it. This evidence, with the many attempts which have been made to determine its significance, he weighs carefully, and finally presents his own conclusions.

The authentic incubation periods recorded vary from ten days in the Cowbirds, Bobolinks, certain Warblers and some others, to as many as fifty-six or fifty-eight days in the Emu and sixty days in the Black-eyebrowed Albatross.

To account for this wide difference in time is the object of Dr. Bergtold's studies. Lack of satisfactory data concerning many of the factors involved prevent him, he writes, from presenting other than tentative conclusions.

While admitting that the incubation period "is loosely related to the size of the species, and still more loosely to the size of the egg," Dr. Bergtold believes that this period is primarily determined by the *temperature of the bird*. The existing information in regard to the temperature of birds indicates that the 'lowest' forms (that is, those most nearly related to their reptilian ancestors) have the lowest temperatures (averaging 100°–104°) while the 'highest' birds have the highest temperatures (averaging 106°–110°). Here, apparently, we have a physiologically reasonable explanation of why the higher birds (Thrushes, Warblers, Finches, etc.) have the shortest incubation periods.

Dr. Bergtold has assembled more information concerning this fascinating and important subject than has before been available in a single volume, and his work marks the starting-place for all future investigators of the phenomena he so ably discusses.—F. M. C.

The Way to Study Birds. By John Dryden Kuser. With nine colored plates by Louis Agassiz Fuertes. G. P. Putnam's Sons, New York and London. 16mo. xii + 85 pages.

Somewhat over thirty years ago there appeared a popular book entitled 'Our Birds in Their Haunts.' It was followed, a few years later, by such less ambitions but possibly more effective guides to bird-lore as 'Fifty Common Birds and How to Know Them,' 'Our Common Birds and How to Know Them,' 'Birds Through an Opera-Glass,' etc. From that day to this the subject of bird identification has claimed the attention of many authors, culminating (with discoveries in color printing) in inexpensive pocket keys and guides with excellent colored figures of every species of bird known to inhabit the area concerned. Nevertheless, with that fine enthusiasm for his method of presentation, without which most books would never have been born, Mr. Kuser tells us, "For the beginner to learn avian identification is at present hopelessly complicated and unnecessarily discouraging, because of the requirement to wade ignorantly through a heterogeneous mass of terms and descriptions, or to go bird-hunting without the remotest idea of what he may expect to find most common or most easily identifiable in the special locality in which he searches."

Mr. Kuser writes of fifty common land-birds from "New York City as a center." His method of arrangement is seasonal, "twelve abundant permanent residents" being first treated. Then follows a chapter on 'Note-keeping' and another on 'How to Use the Key' which is given at the back of the book. Chapter V includes "The fifteen most abundant Summer Residents," and Chapter VI "The Fifteen

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next Common Summer Residents;" Chapter VII deals briefly with 'Nests;' Chapter VIII, with 'Transients;' Chapter IX, with 'Migration Data;' Chapter X, with 'Winter Residents;' Chapter XI, with 'Winter Feeding;' Chapter XII, with 'Books, Publications, Societies,' etc.; Chapter XIII with 'Protection, Preservation, and Propagation;' while Appendix A contains a 'Key' to apparently the commoner land- and water-birds of the Middle States and Appendix B is a glossary. There is no index.

Mr. Kuser has made good use of his eighty-five pages, and his cordial invitation to bird-study will, we hope, be accepted by the many persons who desire just such an introduction to the subject as he here presents.

Nine full-page colored plates by Fuertes add greatly to the beauty, value, and interest of the book. Our interest is especially aroused by the Frontispiece, of a House Wren which appears to have placed its nest in a gourd having a diameter no greater than the length of the bird!—F. M. C.

BIRDS OF THE CAMPUS [of the Western Illinois State Normal School, Macomb, Ill.]. By CHAS. W. FINLEY, S.M. *Normal School Quarterly*, No. 30, June, 1917. 28 pages; 12 half-tone plates.

This is an exceptionally interesting addition to the growing number of publications dealing intensively with the bird-life of a restricted area. Its value lies not alone in the original information which it contains, but in its usefulness as a guide to the students who, in the course of time, will live in the locality of which it treats. Furthermore, the method in which the author presents his data seems well designed to arouse interest in his subject and to stimulate further investigation.

An introductory paragraph sums up the results of the observations recorded. They were made between February 21 and July 22, 1916, on a tract of about 63 acres. During this period 110 species were observed, of which 24 were found nesting. "In all 208 nests were built in which were deposited 467 eggs, 260 of which hatched. Sixty-three of the young birds were destroyed before they were old enough to leave the nest, which leaves 195 successfully reaching that age."

These facts are presented in detail in the body of the report, together with full data on the migration, and a number of photographs showing nesting-sites, nests, and birds.—F. M. C.

Ornithological Magazines

THE AUK.—The July issue chronicles the lifework of the late Prof. F. E. L. Beal in an opening article written by Mr. W. L. McAtee who has prepared a fitting tribute to one of the older generation of ornithologists. Professor Beal's contributions were mainly to economic ornithology, and he rounded out a quarter century in the U. S. Biological Survey.

Messrs. P. B. Philipp and B. S. Bowdish record their observations on the nesting of 'Some Summer Birds of Northern New Brunswick,' some of the rarer Warblers and the Philadelphia Vireo being among them, and Mr. V. Burtch records the 'Nesting of the Florida Gallinule' at Branchport, N. Y. Both articles are illustrated with half-tones, and the description of 'An Improvised Observation Tent' by Dr. R. M. Strong is also illustrated. A short paper 'Field Notes on the Seriema (*Chunga burmasteri*)' by Mr. H. S. Boyle throws light on this curious South American bird.

Many readers will be interested in 'Miss Lawson's Recollections of Ornithologists' by Mr. F. L. Burns. She tells us a little of Wilson, Ord, Bartram, Bonaparte, and others.

A valuable contribution is by Mr. F. S. Hersey on 'The Status of the Black-throated Loon (*Gavia arctica*) as a North American Bird.' In spite of this species being recorded in no less than sixteen states of the United States and in many parts of Canada, Mr. Hersey finds there are just *three correctly identified specimens*, all from Alaska. If so many mistaken identifications can occur in a well-

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marked species, what hope is there for subspecific records—'sight' or any other kind! We may well take the lesson to heart.

Mr. H. S. Swarth describes in 'A Revision of the Marsh Wrens of California' a new race, *Telmatodytes palustris æstuarinus*, and Mr. H. C. Oberholser in 'Notes on North American Birds, II' reinstates several races that have not been recognized in the A. O. U. Check-List. Mr. Oberholser also presents 'A Synopsis of the Races of *Bombycilla garrula*' recognizing one for Europe, one for Asia, and one for North America. Mr. H. C. Brimley contributes his records of 'Thirty-two years of Bird Migration at Raleigh, North Carolina'—165 species with much information and exact dates.

One may browse with interest among the several departments that fill the closing pages of a remarkably varied issue, and we may well wonder if we really know anything about birds when we find questions as to how tree-nesting Ducks get their ducklings down to the water and as to what species regurgitate, and as to other matters equally important, all open to doubt.—J. D.

THE CONDOR.—In the opening article of the May number, Dixon gives an interesting account of 'The Home Life of the Baird Sandpiper (*Pisobia bairdi*),' a species which breeds north of the Arctic Circle and winters in Argentina and Patagonia. This paper, illustrated with figures of the nest and eggs and a map of the breeding-range of the bird, is based on observations made in 1913 and 1914 between the mouth of the Mackenzie River and Point Barrow. The abundance and tameness of wild Ducks in the refuge on Lake Merritt, Cal., in the heart of the city of Oakland, is brought out by W. W. Richards in a brief note accompanied by four striking photographs showing flocks of Canvasbacks, Baldpates, Sprig, and Coots in the immediate vicinity of city residences.

Kennedy discusses 'Some Factors Involved in the Nesting Habit of Birds,' and Oberholser reviews 'The Status of *Aphelocoma cyanotis* and its Allies', recognizing eleven forms of Jays in the *californica* group, all of which, except *A. cyanotis* and *A. insularis*, are subspecies of *A. californica*. Mrs. Bailey concludes her paper on 'Birds of the Humid Coast' with an account of the species in the bracken and notes on the Band-tails. A review of ornithological work in progress by various bird students is given by the editor, and the number closes with the annual 'Directory of the Cooper Ornithological Club.' The total membership of the club is now 601, including 7 honorary members.

'The Condor' for July contains five general articles, the first two of which are devoted to habits of birds, one on 'The Ospreys of the Yellowstone,' by M. P. Skinner, and the other on 'The Magpie in Southeastern Washington' by Lee R. Dice. J. H. Bowles describes 'The Winter Migration of 1916–17 in the Northwest' which was marked by unusual numbers of Great Horned Owls, Snowy Owls, Goshawks and Bohemian Waxwings.

The last two papers comprise local lists. Under the title 'Observations on Some Fresno County Birds,' Swarth contributes notes on sixteen species supplementary to Tyler's papers on the same region. This article is followed by an extended account of 'Some Birds of Central Oregon' by Alex Walker, containing notes on 139 species, the result of observations made in 1913, 1914, and 1915. Among the brief notes are records of nine Fork-tailed Petrels (*Oceanodroma furcata*) obtained at Sunset Beach, Orange County, in May and June 1916, and three Baird's Sandpipers collected at Del Rey, Los Angeles County, Cal., August 17, 1916.—T. S. P.

Book News

'THE Winnetaska Bird Charts' or rather bird-cards are designed to enable the field student readily to record all that he may observe about an unknown bird.

There are cards for water- as well as land-birds. They may be obtained from the publisher, Dr. John B. May, Cohasset, Mass.

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Bird-Lore

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Devoted to the Study and Protection of Birds
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE Editor desires gratefully to acknowledge the many cordial expressions of goodwill and appreciation which have come to him indirectly from contributors to BIRD-LORE'S 'Conference.' Our errors rarely pass unnoticed, but whatever may be especially worthy of commendation is usually taken for granted. Contact of Editor with reader is, therefore, apt to be of a somewhat discouraging nature, and it is consequently most reassuring to receive this unexpected outpouring of loyal support of the magazine and warm-hearted endorsement of its efforts to "promote the study and protection of birds."

A CIRCULAR letter recently issued by E. W. Nelson, Chief of the Biological Survey of the United States Department of Agriculture, to the field naturalists of the Survey, deserves far wider circulation than, as an official document, it is likely to receive. While it relates primarily to mammals, Mr. Nelson states that "as regards the desirability of giving more attention to studying the habits of the species" what he writes about mammals applies "with equal force to birds." Mr. Nelson calls attention to our ignorance of many important phases of the life-histories of even our commonest mammals and urges the field naturalists. of the Survey to "make special efforts to obtain all the information possible concerning the habits of the species in the territory visited."

"The study collection of the Biological Survey," he writes, "has now become so well supplied with series of specimens representing the commoner species that a considerable part of the time of the field investigators will be more profitably spent in obtaining more detailed information on the life-habits of these species than in largely increasing the number of specimens."

This is an epoch-making sentence in the history of North American mammalogy and ornithology. Specimens, more specimens, and then more specimens has heretofore been the motto of museum expeditions, whether sent out by government or private institutions. That the collecting and classifying of specimens is the first step in the study of the species is beyond question. But the gratification of the collecting instinct, the fascination of the hunt, and the necessity of securing some tangible result in return for the time and money expended have all combined to turn the field naturalist into a collector rather than an observer.

The capture of the specimens left neither time nor opportunity for a study of the species; while their preparation often required the effort that might have been employed in recording the observations one had chanced to secure.

With the issuance of Mr. Nelson's letter we see the dawn of a new era in the study of the birds and mammals of regions which have been more or less thoroughly 'collected.'

Coming from the head of an important Government Bureau, where strict accounting must be made of funds appropriated by a none too generous Congress, it may be accepted by those responsible for allied institutions, as an authoritative statement that not only the 'skins' of birds and mammals, but also a knowledge of their habits, has an actual cash value.

Hereafter, let us hope, the success of the field naturalist, even in countries the fauna of which is still imperfectly known, will be measured, not by the size of his collections, but by the contents of his note-books.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

ON IMPROVING METHODS OF TEACHING BIRD- AND NATURE-STUDY

More and more deeply a feeling is coming to thoughtful educators, as the great war steadily takes its toll of men trained as teachers or scientists, that the ranks must be filled in the near future by members of a younger generation, by boys and girls now in high school or preparatory institutions. The question arises as to whether these youthful scholars will attain a broad and careful outlook upon the field before them, and become sufficiently well fitted for the tasks awaiting them to take up and carry through the work of men who have left the schoolroom or investigator's laboratory to aid their country in the world-wide struggle for liberty.

What can we do *now*, in the midst of so much outward strife, to improve methods of teaching and to bring the standard of scholarship in nature-study to a higher level? We can do *this:* actually exert ourselves to see and understand more of what goes on about us in the world of nature. The simple exercise, which follows, describing a sand spit, suggests some ways in which a more intimate acquaintance with the interrelationships of a very circumscribed area of plant and animal communities may be made. One serious trouble with present methods is the *detached* presentation of facts about nature. Bird-study has long been popularly taught by the simple method of identifying one bird after another, usually by plumage, less frequently by song or flight, and even more rarely by observation of habits.

This is a most inadequate method at best, since birds are so bound up in their life-histories with other forms of life, particularly with vegetation and insects that the detached method in reality fails to give the proper background for their activities or an adequate presentation of the part they play in the so-called balance of Nature. When high-school teachers are satisfied to lay aside a certain prejudice about college and university methods on the one hand, and grade-school methods on the other, the question of raising bird- and nature-study to its rightful place can be much more fairly met. One method should underlie all phases of this work; namely, the method of *getting at the truth.*

In the kindergarten and grades, children can learn to know animals and plants in communities just as well as in detached groups, or one by one without reference to relationship to their environment. It takes thought and time to see the world as it really is, but how much more, for example, a bird means to

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the observer if he follows out its daily routine from feeding-area to nesting-area, and discovers where its associates are, what food it selects, what enemies it avoids, and what friends it makes! A diagram of the ordinary activities of animals found on the sand spit devised by an instructor in marine ecology is well termed 'The Whirlpool,' for the relationship of the plants and animals of the different zones found there is so intricate as to suggest not only a ceaseless intermingling of life, but also an interdependence beautifully adjusted to the requirements of each individual organism.

Make a beginning this school-year by calling for lectures of scholarly grade, bird- and nature-study books of wide and truthful outlook and, above all, help teachers in every possible way to attain the highest standards by the best means.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXV: Correlated with Etymology, Mechanical Drawing and Observation

THE SAND SPIT

[NOTE.—The data for this study have been taken in part from a paper, entitled 'The Animal Ecology of the Cold Spring Sand Spit,' by Dr. C. B. Davenport.]

"On a narrow *spit* of sand between the rocks a dozen little girls are laughing, romping, and pattering about." —KINGSLEY: Two Years Ago. ii.

In studying geography, it is quite likely that you may have been told that "a small point of land running into the sea, or a long, narrow shoal extending from the shore into the sea" is called a *spit*, and, no doubt, the use of this common word in such a sense seemed strange to you. Had you taken pains to look up the etymology of *spit*, a much clearer idea of its meaning would have come to you. Spit is two words, in reality, of quite different origin, although both go back to Anglo-Saxon, old Dutch, German, Icelandic and early English, and not to Latin or Greek. With the word spit related to *spittle* and *spew*, and in the modern sense to *saliva*, we have nothing to do, for the word applied to a narrow point of land running out into the sea comes from a different source. Although this word spit, like the other, is of early Dutch and Anglo-Saxon origin and related French, Italian and Spanish sources, it comes from words originally meaning a roasting-spit, a deer's horn, or the branches of a deer's horn, a spear, pike, lance, a wooden peg, a tapering point. Remembering that the ancient roasting-spit was a slender, sharply pointed stick or bar, we see how apt the application of the word is to a long, narrow neck of land or sandy bar thrust into the sea.

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In a modern poet's verse you will find the word used in connection with *beach*, a more common feature of shore landscape:

> "But Hermod rode with Niord, whom he took
> To show him *spits* and beaches of the sea."
> —MATTHEW ARNOLD: Balder Dead. iii.

A year ago, you may remember that we had a picture of "the inner harbor." Beyond this nearly land-locked harbor extends the larger outer harbor, which joins the great Sound and through that the Atlantic Ocean some ninety miles from the point to be described. Between the inner and the outer harbor is a sand spit. In fact, the harbors would be one were it not for this narrow strip of sandy shore which so nearly separates them. It almost seems as if barely enough space was left open for the tide to run through or an occasional boat of small dimensions.

The spit at first sight looks commonplace and of little interest, a stretch of sand, some rather scanty beach-grass, and one or two wind-tossed shrubs to break its monotonous level. In length it is a little more than a third of a mile, and its varying width ("80 meters at its western end" and "15 meters at its eastern end"), which averages about 40 meters, or 131 feet, gives it the appearance of a tapering point. Along its center, lengthwise from west to east, the sandy soil is heaped up gradually by débris which eroding winds wear away from the bluffs on the western coast of the outer harbor, and southbound currents carry as far as the protected area where the outer harbor joins the inner. Rising a little above the beach edge on the north side and the inner edge which is covered with marsh grass, thriving abundantly on the muddy shore-line of the inner harbor, this slightly higher crest of the spit has been called "the desert area" to distinguish it from the pebbly outer beach and the muddy, grassy inner shore-line. Upon looking more carefully at this surprising point of land, one finds that the sand on different parts of it is either finer or coarser, according to its location. In fact, one might spend much time studying the geological formation found here before being able to describe the spit accurately. The animals and plants too distributed over the sand spit vary much more than the casual observer would expect, and their number exceeds by far any hasty estimate.

At falling tide may be seen the *lower beach*, which remains covered at high tide. There are also at certain times unusually low tides, called "spring tides," when more of this part of the beach with its rich marine life is exposed for a brief period almost in plain view. A large annelid worm lives here, called *Nereis limbata*, which means daughter of the sea-god Nereus, having a frill of limblike appendages along its sides. More common worms are found in greater abundance. The primitive vertebrate *Balanoglossus* is occasionally met with here in the edge of the "shallow sea." There are, "*sessile*" forms of life, both plants and animals, as well as "*crawling*,"

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"*burrowing*" and "*swimming*" animals living on the lowest tide-levels of the outer beach. Along the lower beach proper, plant and animal life must struggle hard with the constantly changing tides, and here, as one might judge, there are fewer forms existing. Many tiny insects (*Collembola*) of peculiar habits are found at this level while a little higher up the familiar horseshoe crab comes to nest.

There is much complication in the daily life of some of the animals living on the lower beach, for those which are air-breathers must move elsewhere when the tide is high. Many an hour may be profitably spent watching their movements.

Above the lower beach follows *an upper beach* strewn with débris from the incoming tides along its lower margin, and joining the "desert zone" of fine sand and stiff, sparse beach-grass along its upper edge. The *upper beach* might well be termed an old curiosity shop of Nature, for here are found the flotsam and jetsam of the sea. By one scientist it has been described as the "graveyard of the shallow sea," and by shallow sea we should remember, is meant the lowest low-tide area. Walking along any beach we have all wondered no doubt how the things which we picked up got there, smooth bits of wood or pebbles soft to the touch with constant wearing by the waves, old bottles, bits of boxes or lumber, sometimes parts of ships, seeds, pieces of sea-weed, flabby jelly-fishes, embryo-cases of skates, and certain dead insects which have been drowned, probably by being blown out of their course and cast into the sea. Most of these insects, we are told, that have been found on the sand spit are leaf-eating by habit, like the destructive Colorado potato-beetle and the beneficial ladybugs. Since much of this débris, both plant and animal matter, is edible, animals of scavenger habit are attracted thither, which accounts for the presence of herbivorous beach-fleas, rove-beetles, and a tiny white earthworm, as well as carnivorous ants, flesh flies and carrion beetles of various kinds, one of which is called *Necrophorus* from its habit of burying dead prey in which it lays its eggs. There also occur dermestids in larval form, those tiny "skin-eating" beetles, some kinds of which are so destructive in museums and elsewhere in carpets and sometimes even upon bacon.

Added to this strange assortment of creatures and things along the upper beach, are still other forms of life, predaceous by habit, that is, preying upon living animals. Such are the sand-white running spiders and robber flies, the tiger beetles, ant-lions and familiar Barn Swallows, which find a rich feeding-area along this narrow line of the spit.

Nearly up to the storm-bluff line of the upper beach, where beach-grass joins sand, may be found here and there a wandering grasshopper, almost white in this environment but capable of becoming much darker if removed from its sandy habitat, a few crickets, and sometimes an occasional song-bird in bits of jetsam lumber. Here on the outer beach, too, come the omnivorous Crows in some numbers, to glean morsels of sea-food for themselves and young.

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Their sagacity is well illustrated by their actions on a summer's afternoon, when bathers preömpted the beach, both at its eastern and western ends. Circling about, ready to alight at the tip of the spit, as is their wont, the presence of row-boats and people, supposedly enemies, caused them to turn, reconnoiter, and finally to select a space midway along the beach where, no doubt, continued observation on many other days, when bathers frequented only the ends of the beach, led them to feel free from attack. This same company of Crows, if ever so slightly aware of the approach of a human being when feeding on the inner harbor at low tide, take fright and depart long before their less suspicious companions, the Green and Black-crowned Night Herons, are disturbed.

Mussels and mud snails no doubt attract the Crows to their favorite feeding-ground near the *tip of the spit*, where the outer beach joins the inner mudflats, held fast against the inrushing and outgoing tides by thick masses of tough marsh-grass (*Spartina glabra*).

Coming up now to the storm-bluff and "*desert zone*" of the spit, one finds vegetation and animal forms of life which are quite similar to those some distance inland. Only a few typical shore forms of plants and practically no marine animals are found, although scarcely half a stone's-throw brings one to the outer and inner tidal zones. Plant-lice, ants, various leaf-beetles, spiders, dragon-flies, crickets, and an occasional wasp or butterfly spend their life-cycle on this narrow line of vegetation. The Spotted Sandpiper comes here to nest in the fine sand, pulling a few strands of beach-grass over its simple home as shelter. This summer a large nest of dead beach-grass was discovered, which some larger bird had fashioned and used, a domestic Duck probably, or, possibly a wild bird whose identity may be proven by the fuzzy blackish feathers left in the nest with two barred rusty, white-and-black contour feathers. A delightful mystery this, because the location of the sand spit makes some inviting probabilities doubtful of acceptance without visible proof. Now and then a Kingbird finds its way to the stray clumps of stunted bushes on this tiny "desert," or a small company of Goldfinches race by in search of weed-seed and chicory which creep into byplaces on the western end of the spit. One day a Kingfisher sought a low, precarious perch on the tip of an old log, which successive tides and winds had pushed well up off the beach. Stranger yet, a Spotted Sandpiper, probably the mother bird, actually clung in a perching attitude to the top of a low mullein stalk from which available height she anxiously watched her single newly-fledged nestling, now hiding in the grass and calling piteously at every turn.

From the inner beach, where Sparrows of various species lurk, flies up now and then a weak-voiced sharp-tailed Finch, to a branch of one of the straggling shrubs on the "desert." Down in the muddy bottoms of the Spartina, where most of their time is spent, live communities of lively fiddler crabs and slow "plant-feeding" snails. Along this inner edge, too, where a half-dry beachlike

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pathway runs inside the area of marsh-grass and mud, a pair of Mourning Doves are wont to feed, flying down from woodland pastures a hundred feet or more higher up. Song Sparrows, Catbirds and, more seldom, Purple Grackles visit the spit, the two latter usually along the beach. During the migration season, it is not uncommon to hear the Yellow-legs calling as they fly over, or to catch the sweet whistle of the much rarer Upland Plover, or to see the white breasts of a flock of hurrying Tree Swallows. Among many delightful memories of the Sand Spit, one stands out never to be forgotten, the vision of a small White Heron, pausing in the early morning on the outer beach before seeking a more sheltered feeding-ground. Such stray visitors from the South are becoming more frequent. This season as well as last, a large American Egret spent some weeks in a neighboring harbor and the Little Blue Heron, also white or nearly so in the immature plumage in which it usually appears, has been recorded nearer by.

It is always with a feeling of regret that one leaves the sand spit, for life is so full of daily interest there, one can always learn something new. A glance over the outer harbor may reveal a stray Tern (*Sterna hirundo*) basking placidly on the stake of a buoy, or a flock of Laughing Gulls, mayhap, tossing up and down the windy waves, while inshore stalk the sober Herons, eagerly scanning the flats of the inner harbor for eels or other toothsome prey. A knot of Fish Crows sometimes finds its way hither, and when the Great Blue Heron flaps majestically over, a feeling of the endless charm of bird-study and the intimacy of Nature brings a keen joy not to be effaced by long wintry days to follow, for even then Great Black-backed Gulls come down from the North to join the Herring Gulls which throng the spit and inner harbor.

"A narrow neck of sandy bar running out into the sea"—I wonder what new discovery awaits me there when next I walk quietly along its yielding surface!

SUGGESTIVE QUESTIONS

How many feet make a meter?
Where is the meter used as a measure of length?
Why should we be familiar with it?
What does geology mean?
What is the story of Nereus and his daughters?
What is the difference between flotsam and jetsam?
Explain the meaning of etymology? omnivorous? eroding?
What other words can you think of which begin with omni—?
What is the meaning of reconnoitre? How is it used by soldiers?
Look up Spartina glabra.
Describe life on the different parts of the sand spit as follows:

The Sand Spit
1. The lowest low-tide line.
2. The lower beach.
3. The upper beach.
4. The "desert area."
5. The eastern tip of the spit.
6. The inner shore along the muddy bottoms.—A. H. W.

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FOR AND FROM ADULT AND YOUNG OBSERVERS

THE BLACK-CAPPED CHICKADEE

By G. T. RICHARDS* (age 11 years)

"This scrap of valor just for play,
Fronts the north wind in waistcoat gray,
As if to shame my weak behavior.
Piping a tiny voice near by
Gay and polite, a cheerful cry,
Chick-chick-a-dee-dee—saucy note!
Out of sound heart and merry throat,
As if it said 'Good day good sir!
Fine afternoon old passenger!
Happy to meet you in these places,
Where January brings few faces.'"

—EMERSON.

The Chickadee's disposition is its great point, as its plumage is not brilliant while its song is merry, not beautiful. It is the tamest bird that we have and is very beneficial. It is fully as much of a snow-bird as the Snow Bunting and is out in all weather except during an ice-storm. "Follow the Chickadee and you will sooner or later see most of the woodland birds." It is very curious and often will alight on one's hand. It is the picture of gaiety, merry and unafraid, "chick-chick-a-deeing" encore after encore, day after day, until its first egg is laid, when it suddenly becomes silent and avails itself of every effort to draw you away from its precious offspring. It is properly a wood bird but will sometimes come to one's door to partake of a feast when food is scarce. "Its chief traits are courage, optimism, industry, activity, helpfulness, and joy in life." It seems to notice humans and does not regard us with indifference, but shows a decided interest in man-folk.

There are six to eight eggs a brood and sometimes two broods, provided that the nest is not robbed. The color of the eggs is white spotted with reddish brown. The time is eleven days to hatch and two weeks before the young birds can fly. The Chickadee nests in sassafras, birch, wild cherry, apple, plum, pine, and redbud trees, while it will use knot-holes, fence-posts and bird-boxes if there are any near. It cannot bore into solid wood, and when it makes its own hole uses dead trees or Woodpeckers' and Nuthatches' holes and any others that it can find. It deepens, enlarges, and smooths other birds' holes whenever possible. The Chickadee uses holes all the year round to live, breed, and sleep in, and seeks a hole when danger threatens.

It is very prudent and removes tell-tale chips to a distance. Its nest is nine inches deep, and in one instance a Chickadee had scooped clear to the bark of a three-inch tree. When resident (as it usually is) it uses its hole all

*Authorities consulted (but not quoted verbatim): John Burroughs' Works; Citizen Bird, by Mabel O. Wright and Elliott Coues, New International Encyclopedia; Bird Guide, by Chester A. Reed; Bird Neighbors, by Neltje Blanchan; Field Book of Wild Birds and Their Songs, by Schuyler Matthews; The Home Life of Wild Birds, by F. H. Herrick; BIRD-LORE; Educational Bird Leaflets.

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the year round. Chickadees are very clean and push their young to one side when cleaning house. Their nest is made of cottony vegetable fibers, animal hair, wool, mosses, feathers, and insect cocoons. The pair take turns at sitting and, as they are the same color, one cannot tell the difference. The male feeds the female when she is sitting. When one peeps into the nest, the sitting bird makes a peculiar puffing sound which makes one draw back and shut one's eyes. Both birds sing, but the male's song is better. Their song is *chick-a-dee-dee-dee-dee* with an occasional *dee-dee* or *chee-dee*, while in spring they utter a call, *phœbe*. They have several other notes of minor importance. "Their call has a touch of unspeakable tenderness and fidelity."

Our friend eats larvæ and eggs which it gets from trees, and it has been figured that one of them destroys 138,750 cankerworms' eggs in twenty-five days. In winter the Chickadee welcomes food put out for it, such as crumbs, sunflower seed, fat pork, raw bone, suet, and corn, while a picture that I have seen shows one on a piece of cake.

To attract Chickadees, ordinary bird-boxes may be put up. The dimensions are 12 by 4 by 5 inches, and the hole should be 1¼ inches in diameter and should be near the top. No perch is needed. This house will do for Wrens also.

The Chickadee belongs to the Titmouse family, and its brothers (birds of the same genus) are the Carolina and Acadian Chickadees. Its cousins are Titmice, Nuthatches, and Verdin. Its other names are the Black-capped Titmouse or Tit. Its ornithological name is *Penthestes atricapillus*, Family *Paridæ*, Order *Passeres*.

It is a great acrobat and could turn Flycatcher if it chose. It has no harmful habits, few natural enemies, and is most often seen in dry country.

[Accompanying this unusually painstaking and interesting article is the following explanatory note from a "grown-up:" "The whole thing was entirely a labor of love, initiated and type-written by the boy because of his admiration of the Chickadee. The boy consulted, as he told me, 'everything he could lay his hands on.' If it would serve as an instructive example for other boys and girls to follow, its publication may be worth while." The kind of bird-study represented in the foregoing article is sometimes, but rarely, followed in schools where bird- and nature-study are allowed a fixed period a week. Correlated with drawing and reading, a class can, during a year's work, accomplish something very creditable in the way of compiling and putting together neatly and artistically a small booklet, illustrating birds and their habits. It seems very much worth while to give this method a trial in schools where opportunities for field-study are of necessity limited.—A. H. W.]

ANOTHER METHOD OF INDOOR STUDY

I have had BIRD-LORE for three years, and it is always welcome. I enjoy reading it very much.

I am in the sixth grade and have agriculture as one of my studies.

One day the class had a lesson on birds. We had to find who could get the

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most birds and also an outline of the most important birds. I had the most birds and also the outline. Below is the outline:

Birds as:

Destroyers of Vermin	Jays		
	Crows		
	Owls		
	Buzzard		
Scavengers	Gulls		
	Buzzard		
	Crows		
Consumers of Wild Weed-seed	Doves	Blackbirds	Cardinal
	Sparrows	Larks	Quail
	Cuckoos	Orioles	
Insect Destroyers	Wrens	Blackbirds	Crows
	Orioles	Cardinal	Owls
	Quail	Whip-poor-will	Bluebird
	Swallows	Jays	Sparrows
	Mockingbird	Woodpeckers	Catbird
	Flycatchers	Doves	Cuckoos
	Larks	Killdeer	

I have seen this spring the following birds: Redbird, Robin, Wrens, Bluebird, Catbird, Crows, Blackbirds, Sparrows, Swallows, Doves, Larks, Quail, Jays, Woodpeckers, and Hummingbird. These are most of the birds that frequent our village. Hummingbirds are not seen very often, but if you go on the bluff you will see their nests and the birds also.

I have seen quite a few nests in trees and other places. I have seen nests of the following birds: Robin, Wren, Blackbird, Sparrow, Mud Swallow, Bluebird, Mourning Dove, Blue Jay, Catbird and Woodpecker. I saw the Robin's young ones, also the Mourning Dove's young ones.—ALICE CRECELIUS (Age 10 years), *Jefferson Barracks, Mo.*

[This well-written outline suggests again the importance of *individual thinking and effort* in bird-study as opposed to the system of memorizing. A postscript added to the article contains the inquiry: "What kind of bird is very large and eats fish?" Perhaps some of our readers can answer this question. It is a good one to look up.—A. H. W.]

A JUNIOR AUDUBON SOCIETY IN AN HISTORIC SCHOOLHOUSE

By this mail I am sending you a picture of my Junior Audubon Society, also some letters written by my pupils who are members of the society. The picture was taken in our schoolyard, and I am sorry that the building does not show, for it is the oldest public school building in the United States, having been founded by George Washington, and named for him. In Alexandria

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we have the boys and girls separated in the grades, and I have boys in the third grade.

This has been the most enthusiastic Audubon Society I have ever had, and I attribute it to the fact that our field secretary, Miss Katherine Stuart, lives in Alexandria, and she is always ready to help Junior Audubon Societies. We have enjoyed her visits so much, as well as the field trips she has taken with us.

Most of the members have made bird-boxes, and some of them were put up in the Soldiers' Cemetery. With a few exceptions, birds had built in all of the boxes a short while after they were put up. We have scattered a quantity of food this past winter, and while the English Sparrows have been the principal birds to feed near the building, the children have taken such delight in keeping the table supplied, I am sure they will continue the habit. Very near the school window there is an old cherry tree, which during the last few weeks of school was visited by many kinds of birds. It was a surprise to see how little the boys seemed to care for the cherries, for they preferred that the birds have them instead.

Our meetings are held twice each month, and we quite frequently have visitors. The boys make up the programs, and always preside at the meetings. Before school closed they elected officers for next year, intending to continue the work in the fourth grade.—Miss Mary Douglass.

[No comment is necessary here, as the picture of the Alexandria Junior Audubon Society speaks for itself. It might be well, however, to point out that this Society intends to continue its organization and work in the fourth grade, which is what all Junior Audubon Societies really should do, instead of dropping their organization at the close of the school year in which it was formed. With a little more method and enthusiasm on the part of teachers and more initiative and loyalty on the part of pupils, Junior Audubon Societies might easily be kept up from grade to grade throughout the entire period of preparatory work.—A. H. W.]

MORE METHODS OF STUDYING BIRDS IN JUNIOR AUDUBON SOCIETIES

I

This year is the first year I have studied birds. I belong to the Junior Audubon Society. In this state of Virginia it is an offence with a fine to kill most of the birds.

Miss Stuart goes around talking to children in Virginia about birds. She has been to see us twice. Most of us have made bird-houses, and we put them up in different parts of the city.

I have an Uncle who lives in Canada, and I would like to know if there is a fine for killing birds there.—James Noble (Age 9 years), Third Grade, *Alexandria, Va.*

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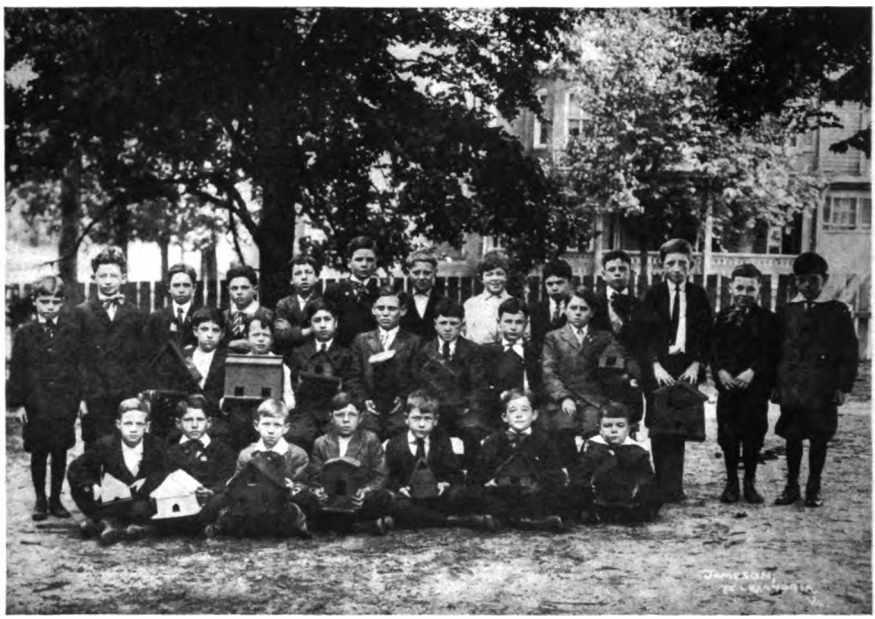
II

We have an Audubon Society in my room at school, and we have thirty members. Miss Stuart came into my room and talked to us about birds. She says that the enemies of birds are the gun, the cat, and the dog. She showed us some nests that she had with her.

We built bird-houses and put them up. We put boards on the windows at school and fed the birds. The birds are beginning to get tame around my



JUNIOR AUDUBON SOCIETY, ALEXANDRIA, VA.

school now. We can look out of the window and see a lot of birds. We have studied eight birds this year.

Yesterday we had a bird contest against the fifth grade, to see who remembers the most about the birds we have studied.—JOHN MCIVER JACKSON (Age 8 years), Third Grade, *Alexandria, Va.*

III

All of the boys in our society have built bird-boxes, and we had our pictures taken with the boxes. I took my box home, and in a few weeks a Sparrow started to build in it, but it did not finish. One week later a House Wren built in it. She took out all the grass that the Sparrow had put in. She tried to get a big stick inside, but she could not do it, so she went into the box and pulled on it. The stick broke and I heard her thump against the back of the house.

We enjoyed having Miss Stuart come to our meetings. She showed us a

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stuffed Cardinal, a Flicker, a Cedar Waxwing, a Chimney Swift, and other birds.

On June 14, we had a bird contest against the fifth grade, and I won a book for standing up the longest in the contest. The book is about birds, and another boy in our room won a book for making the best bird-box.—Louis Finks (Age 8 years), Third Grade, *Alexandria, Va.*

[These letters all suggest active, thinking pupils, who are learning at first-hand about bird-protection and bird-life in general. It might add much to the attractiveness of bird-study about the school if the English Sparrows were trapped in winter, and the lunch-counter made available for more useful species. In many places this Sparrow seems to be normal in number or decreasing, but as soon as it discovers bird-boxes and lunch-counters, it speedily preëmpts them, keeping away other birds of more desirable habits.—A. H. W.]

CHIMNEY SWIFTS GATHERED FOR THE FALL MIGRATION

I once saw in Atlanta a gathering of Chimney Swifts previous to their fall migration. I lived near some chimneys in a four-storied building that were used only for ventilation. There was a remarkable sight in early October. Scores and scores of Swifts circled around one of these tall chimneys as sunset approached. At first they flew in wide sweeps, then closer and closer, until there was an unbroken, moving, twittering ring. At every round a dozen or more would sink into the open mouth of the chimney, until all had vanished and stillness reigned. They always left so early in the morning that no one saw them depart. After October 12 they came no more.—Lucy H. Upton.

[Readers of the School Department will welcome this brief chronicle of an incident of fall migration, from the pen of Miss Upton. The habits of the Chimney Swift are full of interest, and none possibly is more spectacular in operation than the descent of a large company of Swifts into a chimney. If you are fortunate enough ever to witness such a sight, take a watch and keep record of the number of Swifts going into the chimney each minute during the descent. Also watch the change in time evening by evening as long as the Swifts visit the chimney.—A. H. W.]

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

NOTICE OF ANNUAL MEETING

The Thirteenth Annual Meeting of the National Association of Audubon Societies will be held in the American Museum of Natural History, New York City, on October 30, 1917.

The first business session will be held at 10 o'clock A.M.

In the evening before, beginning at 8 o'clock, it is planned to give a public entertainment, including moving pictures, in the main lecture-hall of the Museum. All members are urged to attend, and the public is cordially invited to all of the sessions.

It is believed that this will be an especially interesting meeting in view of the large volume of work carried forward the past year by the Association, its field workers, and its affiliated organizations throughout the country.

THE MIGRATORY BIRD LAW

The Enabling Act to give force and power to the treaty between the United States and Canada regarding the protection of migratory birds still hangs fire in Congress, although this Association and many other organizations and a great number of individuals have brought every possible pressure to bear to have the subject considered as a war measure. After intense work, the full measure of which will never be realized by any one man, the matter was finally brought to a vote in the Senate July 30, 1917. It was passed by a large majority, but thus far it has been found impossible to get action in the House on the measure. Let no one think for a moment, however, that this bill will ever be lost sight of, as the Association and its friends are constantly in touch with the situation. Every member of the House has been canvassed and his point of view ascertained.

In the meantime, however, the Canadian Government has gone forward with its Enabling Act, and a letter recently received from Dr. C. Gordon Hewitt, of Ottawa, states that on August 29, 1917, final action was taken.

The whole fight for this treaty and its enforcement, therefore, has been won with the single exception of the final vote in our House of Representatives.

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NATIONAL ADVISORY COMMITTEES

Shortly after the passage of the Federal Migratory Bird Law in 1913, the United States Secretary of Agriculture appointed an Advisory Committee to coöperate with the Department of Agriculture in the matter of preparing rules and regulations covering the killing of migratory birds. Recently this Committee was enlarged by the addition of five state game commissioners. The committee as at present constituted stands as follows: John B. Burnham, New York City, Chairman; William L. Finley, Portland, Ore.; E. H. Forbush, Boston, Mass.; Edward G. Bradford, Jr., Wilmington, Del.; Dr. William T. Hornaday, New York City; Marshall McLean, Albany, N. Y.; T. Gilbert Pearson, New York City; George Shiras, 3rd, Washington, D. C.; John C. Speaks, Columbus, Ohio; John H. Wallace, Jr., Montgomery, Ala.; Clinton M. Odell, Minneapolis, Minn.; Clark McAdams, St. Louis, Mo.; M. L. Alexander, New Orleans, La.; William R. Oates, Lansing, Mich.; W. E. Barber, Madison, Wis.; William C. Adams, Boston, Mass.; Carl Westerfeld, San Francisco, Cal.; George G. Koster, Lincoln, Neb.; E. C. Hinshaw, Spirit Lake, Iowa; Brooke Anderson, Chicago, Ill.; George Bird Grinnell, New York City.

This Advisory Committee has had various meetings, and many of their recommendations have been adopted by the Department of Agriculture. The last meeting of the Committee was held at St. Paul, Minn., on August 29, 1917, and the Biological Survey, representing the Department of Agriculture, is now considering its recommendations. A new set of regulations are expected to be issued and signed by the President some time this fall.

After the ratification of the treaty between the United States and Canada in reference to migratory birds, the Canadian Government, by an order in Council, dated December 28, 1916, appointed an interdepartmental Advisory Board for the purpose of formulating plans regarding the protection and use of the wild bird and animal life of Canada. It is one of the duties of this Committee to advise on questions relating to the protection of birds under the treaty. This Board consists of: James White, Assistant to the Chairman of the Conservation Commission; D. C. Scott, Deputy Superintendent of Indian Affairs; Dr. C. G. Hewitt, Dominion Entomologist; Dr. R. M. Anderson, Geological Survey; J. B. Harkin, Commissioner of Dominion Forests.

It will be noted that the Advisory Committee of the United States is composed exclusively of men who have no position in connection with the Government, but the Advisory Board of Canada is composed entirely of officials.

VENEZUELA TO PROTECT EGRETS

Venezuela has recently passed a law governing the collection and exploitation of Heron aigrettes. The law provides that such feathers may not be collected except in the heronries at the time of moulting from July to November inclusive. The word "heronry" is defined as meaning one of those places near lakes, bayous, or rivers where Herons periodically come to nest. The killing or trapping of Herons is prohibited at all times and seasons.

Collectors of customs shall not permit the exportation of Heron feathers without having satisfied themselves by an examination in the presence of the exporter that such feathers are actually moulted feathers, and were not pulled from caught or slaughtered birds. As moulted feathers are easily distinguishable from pulled feathers, the Minister of Fomento is directed to furnish each custom-house with samples of feathers obtained by each process. These dropped feathers are known as "dead" aigrettes, and command a price of only about one-fifth the amount that milliners will pay for "live" feathers taken from the birds.

The exportation of Egret feathers, or

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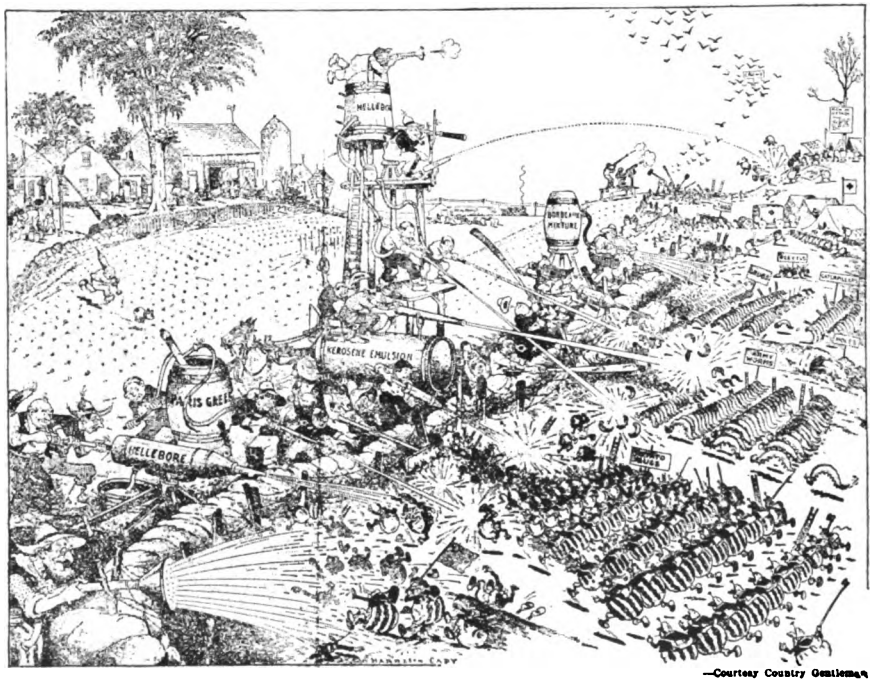
aigrettes, rose to be a considerable business in Venezuela. It was injured by legislation against the importation of plumage of wild birds, first in the United States and then in Great Britain, while the outbreak of war closed the Hamburg market and greatly decreased the demand in Paris. Venezuela's exports of Heron aigrettes in 1908 were valued at $187,005; in 1909 at $230,265; in 1910 at $168,287; in 1911 at $309,532; in 1912 at $373,312; in 1913 at $627,440; in 1914 at $31,461; in 1915 at $166,339; and in the first six months of 1916 at $37,059.

These feathers come exclusively from the states of Bolivar and Apure, where there are many bayous along the Orinoco, and many lakes remaining after the annual overflow of the plains, to which Herons and other birds resort in great numbers. The importance of the feather-trade to this district can be judged from the fact that the total population is only 100,000, and that the only other resource is the cattle business. A serious decline in the commercial prosperity of Ciudad, Bolivar, and San Fernando du Apure has come about since the practical extinction of this trade in 1914, and the people of the district have been urgent in their appeals to the Federal Government to do something to obtain the repeal of hostile foreign laws.

BATTLE FOR THE CROPS---FARMERS VS. INSECT PESTS



—Courtesy Country Gentleman

Note, that the farmers are shown also shooting the birds that are coming to help fight the insects

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Parker, Edward L.	10 00
Seven Gables Junior Audubon Society	3 51
Sherman, Miss Althea R.	5 00
Young, Miss Emily W.	10 00
Total	$3,206 97

Finley Coming East

Mr. William L. Finley, of Portland, Ore., the dean of American wild-life photographers, is planning to come east just after New Year's on a three-months' lecture-trip. He writes that already he has made a large number of engagements. Most bird-students are familiar with Mr. Finley's work, and tens of thousands have thrilled with pleasure in viewing the products of his marvelous exploits in securing moving pictures of western wild life.

The past summer Mr. Finley has spent much time in the deserts of southeastern Oregon, in the Stein Mountains, and in the Cascades, where he has secured an unusual number of new and interesting subjects. Bird clubs or others desiring to make appointments with Mr. Finley may address him at 651 East Madison Street, Portland, Ore., or such communications may be sent directly to the New York Office of the National Association of Audubon Societies.

Nebraska Incorporates

The Nebraska Audubon Society was formally incorporated at a meeting held in Omaha, July 27, 1917. The present officers were reëlected. These are President Solon R. Towne and Clerk Joy M. Higgins. The following were chosen trustees: Solon R. Towne, John R. Ringwait, Katherine M. Baxter, Joy M. Higgins, and Arthur L. Palmer. Omaha will be headquarters for the Society. There will be no capital stock and the corporate life of the Society will be for ninety-nine years. Preservation, propagation, and protection of native birds summarize the object and purpose of the organization.

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THE FIGHT FOR SONGBIRDS

The movement so opportunely started by this Association against the killing of songbirds for food is meeting with most hearty response from many parts of the country, and calls for the cloth warning-notices referred to in the last BIRD-LORE are daily coming in from all parts of the country. Already more than 50,000 of these have been distributed. If further evidence is needed to show the urgent demand for a campaign of this sort, it can easily be furnished from the letters that are being received from various writers. One correspondent has written:

"Not so long ago I was riding in a lonely wilderness in the Guyandotte Mountains of West Virginia, and near the Paint Mountains, when I came across an Italian who had a gunnysack half filled with songbirds. I could not say anything much, because he had a gun and I was unarmed, but reported the same at the nearest point."

Another bird-lover writes:

"I would call your attention to the wholesale slaughter of songbirds here in our immediate vicinity: all foreigners being offenders. Can you not induce the county or town warden to act at once with our local police, who are ready to make arrests or coöperate to stop this dreadful economic waste?"

Another correspondent writes:

"I am doing all I can to protect the birds, but just this afternoon I saw several boys with guns. They had a basket and were overheard to say they had a Robin. I called to them, but they went on. I saw one of them pick up a bird as it was trying to flutter away. This was in North Toledo."

A similar letter may be added:

"Yesterday my wife and I spent the day at Long Beach and came across two sets of hunters. The first set was of three men and three guns. They had shooting licenses and game-law books. They had one Lesser Yellowlegs and six or eight Sanderlings. They seemed to be decent men and were obliged when we told them the small birds came under the five-year clause of the Federal Law. Set number two were simple bird-butchers. We heard two reports and came upon them gathering up the birds. They were Sanderlings. They must have had at least twenty. One man had a bunch held between both hands, and the other the gun and three or four birds. They seemed uneasy when they saw us. My wife wanted to speak to them, but I was strongly against it since they were the kind that would probably answer roughly unless we had authority. I will gladly point out their house to a game-warden."

As long as the Association's supply of the cloth posters holds out we shall be able to distribute them gratuitously to every one who is willing to post them where they may be read by the public.

A DANGEROUS MOVE THWARTED

Among the groups of people who were requested by Mr. Hoover, United States Food Administrator, to make suggestions in reference to the conserving of food, the hotel and restaurant owners have recently distinguished themselves.

On the first of August, representatives of the hotels and restaurants formally met at Washington, D. C., and in due time produced a set of resolutions designed to represent their wisdom in the matter of conserving food. One of their resolutions was to the effect that the Government should urge the various states to lengthen their open seasons on fish and game. That is, they recommended that the United States Government use its influence in the various states to break down the bars of the present seasons when game cannot be killed to the extent that the shooting should be lengthened over a greater period of the year.

In considering this resolution it is well to bear in mind that there are a goodly

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number of prominent hotels in this country whose record for the illegal handling of game is not an enviable one. That much money is to be made by serving game to hotel guests will be ascertained by anyone who will take the trouble to read the menus of our larger hotels where game may be sold; and to anyone who is familiar with the history of game-protection in this country, and the record of certain hotel keepers in reference to the handling of game, the real scheme which these gentlemen may have had at heart is easily revealed.

It was the pleasure of the Secretary of this Association to be invited to address the annual meeting of the National Association of Game and Fish Commissioners in St. Paul, on August 27–29, 1917. This was a very representative gathering, and the heads of the State Game Protective Departments from a large number of the states were present. This afforded an unusual opportunity to bring to the attention of these officials the move which the hotel and restaurant men were seeking to induce the United States Government to make.

As a member of the Committee on Resolutions of this game-protective congress, the Secretary had the pleasure of presenting the following resolutions which were unanimously adopted by the convention.

"WHEREAS, This Association has been informed that the Hotel and Restaurant Committee meeting in Washington City on August 1, 1917, passed a resolution recommending that the United States Government urge various states to lengthen their fish and game season, and that these seasons be made uniform throughout the country; therefore, be it

Resolved, That the existing supply of fish and game is now being drawn on to an extent which should not be exceeded, and that any further draft on the supply would be an irrevocable loss to the nation; and

Resolved, further, that a copy of this resolution be transmitted to the United States Food Administrator."

The State Game Officials thus being warned, and having taken concerted action to check any move which might unwittingly be made by the Food Administrator toward further jeopardizing the wild game, it is reasonable to assume that nothing further will come of the matter.

NEW YORK CONSERVATION COMMISSION

The New York State Conservation Commission, now so successfully presided over by one of the Life Members of this Association, Mr. George D. Pratt, has inaugurated during the present administration many helpful movements that have had much to do with keeping New York in the very forefront of the various state game-warden systems.

Last January the Commission began the publication of a monthly magazine called *The Conservationist*. It is carefully edited, beautifully illustrated, and is, perhaps, the most attractive publication issued by any State Game Department in the Union. The subscription price is 50 cents per year, and it is issued from Albany. It is worthy of a place on the library-table of every bird-lover and sportsman in the state.

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No. 6

NOVEMBER—DECEMBER, 1917

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Bird-Lore

EDITED BY
FRANK M. CHAPMAN

PUBLISHED FOR THE AUDUBON SOCIETIES
BY

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HARRISBURG, PA. NEW YORK

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Bird-Lore

November-December, 1917

CONTENTS

GENERAL ARTICLES PAGE

FRONTISPIECE IN COLOR—CLIFF, TREE, VIOLET-GREEN, BANK AND ROUGH-WINGED SWALLOWS ..... *Louis Agassiz Fuertes*..

WINTER VISITORS TO CITY PARK, DENVER, COLO. Illustrated ..... *J. D. Figgins*.. 305

'ACADIAN' CHICKADEE. Illustration ..... *Maunsell S. Crosby*.. 309

TAMING EVENING GROSBEAKS. Illustrated ..... *Edith K. Dunton*.. 310

A REMARKABLE MARTIN ROOST ..... *Harry C. Oberholser*.. 315

BIRD-LORE'S EIGHTEENTH CHRISTMAS BIRD CENSUS 317

PRAIRIE HORNED LARKS AND TREE SPARROWS. Illustration ..... *Verdi Burtch*.. 318

RED-TAIL HAWK. Illustration ..... *H. and E. Pittman*.. 319

THE MIGRATION OF NORTH AMERICAN BIRDS. FIVE SWALLOWS.. *Harry C. Oberholser*.. 320

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS ..... *Frank M. Chapman*.. 330

NOTES FROM FIELD AND STUDY 332

THE AMERICAN CROSSBILL (Illus.), *H. H. Pittman;* WINTER BOARDERS, *Bert M. Moses;* A BIRD EXHIBIT (Illus.), *Helen M. Sellers;* A SINGING BLUE JAY, *Emily C. H. Armstrong;* STRANGE BEHAVIOR OF A ROBIN, *Herbert L. Cowing;* CARDINAL CAPTURING A CICADA, *Dayton Stoner;* EVENING GROSBEAKS AT CADILLAC, MICH., *Ethan W. Thompson.*

THE SEASON. IV. August 15 to October 15 338

BOSTON REGION, *Winsor M. Tyler;* NEW YORK CITY REGION, *C. H. Rogers;* PHILADELPHIA REGION, *Julian K. Potter;* WASHINGTON REGION, *Harry C. Oberholser;* OBERLIN REGION, *Lynds Jones;* DENVER REGION, *W. H. Bergtold.*

DOWNY WOODPECKER AND TREE SPARROW. Illustration ..... *Verdi Burtch*.. 341

THIRTY-FIFTH ANNUAL CONGRESS OF THE AMERICAN ORNITHOLOGISTS' UNION 342

BOOK NEWS AND REVIEWS 343

WAYNES' BIRDS DESCRIBED FROM SOUTH CAROLINA; PELLETT'S 'BACK DOOR NEIGHBORS'; THE ORNITHOLOGICAL MAGAZINES.

EDITORIAL 345

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT 346

MAKING THE WORLD SAFE, *A. H. W.;* JUNIOR AUDUBON WORK, CHRISTMAS IN 1917, *A. H. W.;* FOR ADULT AND YOUNG OBSERVERS. BOBBIE IN BIRD LAND (Illus.), *Ella Florence Padon;* NEAR A WOODPECKER, *Albert B. Hemstreet;* THE MULTNOMAH JUNIOR AUDUBON CLUB (Illus.).

EDUCATIONAL LEAFLET No. 94. PILEATED WOODPECKER. With Colored Plate by Bruce Horsfall ..... *T. Gilbert Pearson*.. 364

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT 368

THE THIRTEENTH ANNUAL MEETING; A NEW AUDUBON ACTIVITY; THE WORLD'S GREATEST GAME FARM (Illustrated); WILLIAM CULLEN BRYANT AND THE WATER FOWL (Illustration); ENFORCEMENT OF THE FEDERAL PLUMAGE LAW; KNOXVILLE AUDUBON EXHIBIT; SEEDS FREE; A FEEDING-DEVICE.

ANNUAL REPORT OF THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES FOR 1917 377

**** Manuscripts intended for publication, books, etc., for review and exchanges, should be sent to the Editor, at the American Museum of Natural History, 77th St. and 8th Ave., New York City.*

Important Notice to All Bird-Lore Subscribers Whose Subscriptions Expire with This Issue

BIRD-LORE regrets that it cannot send its next issue to subscribers whose subscription expires with this number, until they have renewed their subscription. The size of the edition of each issue is determined by the number of actual subscribers at the time of publication, and if you would have your set complete we would advise an early renewal. Should you decide not to renew, will you not kindly notify us?

Notices of changes of addresses, renewals and subscriptions should be sent to BIRD-LORE, HARRISBURG, PA. Each notice of a change of address should give the old address as well as the new, and should state whether the change is permanent or for one or two issues.

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TO OUR READERS

BIRD-LORE'S claims to your support are contained in its nineteen published volumes. They include an inspiring record of achievement in protecting our birds and in making their beauty and value known to all the people.

With your continued help, Volume Twenty will be worthy to take its place in the file of its predecessors.

If you receive BIRD-LORE through your membership in the Audubon Society, give it as a Christmas gift to others.

If your subscription has expired, renew it, and at the same time subscribe for a friend.

You have only to tell us to whom you wish us to send BIRD-LORE for you during 1918, and we will send them a Christmas card, signed with your name as Donor, as below:

Bird-Lore for Christmas

To _____

With Christmas Greetings and best wishes for the New Year I send you

Bird-Lore for 1918

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This card, with a free copy of this (December) number of BIRD-LORE, will be mailed in time to be received on Christmas Day, and BIRD-LORE will follow throughout the year. Could you make a more valuable present more easily?

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3 Subscriptions for $3.75

BIRD-LORE, Harrisburg, Pa.

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The Bird-Lore Conference

EVEN up to the date of the going to press of this number of BIRD-LORE we have continued to receive gratifying evidences of the appreciation of BIRD-LORE from our readers; and again we give ourselves the pleasure of placing on record some of these cordial 'votes of confidence.' Again, too, we venture to ask that our enthusiastic supporters not only *vote*, but *work* for BIRD-LORE.

BIRD-LORE's price has been increased in order that the size of the magazine should not of necessity be decreased. But unless the increased price be paid, the very step we have taken to prevent the lowering of BIRD-LORE's standards will itself defeat our object. Let us, therefore, through the formation of BIRD-LORE subscription clubs and through the use of the magazine as a Christmas present, see that its subscription list, and thereby its standards, is maintained.

MORE OF THE 'VOTES'

I am in favor of the increased price. It's too good to be made smaller.—LOTT VAN DE WATER, JR., *Hempstead, N. Y.*

I am sure it would be the better plan to raise the price to $1.50. It takes me about two hours to read each issue, and then my only consolation is to read back numbers, some of which have been reread five or six times. Therefore I am against reducing the size of BIRD-LORE.—C. A. BUTTERWICK, *Telford, Pa.*

As to increasing the subscription price of BIRD-LORE to $1.50 per year, I think that not only the present conditions but the actual value of the magazine justify raising the price.—E. S. DANIELS, *St. Louis, Mo.*

It seems to me that BIRD-LORE should be kept as good as it is to be worthy the task it aspires to perform, and that its price should be advanced to $1.50 a year.—(MRS. F. N.) N. DEG. DOUBLEDAY, *Oyster Bay, N. Y.*

BIRD-LORE . . . forms the connecting link between a highly scattered and partially silent organization of people who have at heart the preservation of our wild bird life. . . . 'Make BIRD-LORE Bigger' is my slogan. The slight sacrifice necessitated by the increased cost of publication is as nothing when compared to the possibility of the magazine being decreased in size!—H. I. HARTSHORN, *Newark, N. J.*

Increase the cost rather than in any way curtail the usefulness of our magazine, is my vote.—GEORGE F. HUBBARD, *West Fitchburg, Mass.*

I think it would be most unfortunate if the size of BIRD-LORE, and hence much of its usefulness, were to be diminished. I should think all of your readers would gladly pay the increase in the subscription price.—RICHARD GREENLEAF TURNER, *Malden, Mass.*

By no means, cut down the magazine. We can stand another fifty cents a year. BIRD-LORE is too good to risk spoiling for four bits per annum.—JOHN S. DEXTER, *Saskatoon, Sask., Can.*

The only wonder to me is that, with the publication you are issuing, with the copious letter-press and splendid illustrations you have been able to do it at the price of one dollar. But we must have it at any price, and I for one will advocate that there be no curtailment in size, but an increase in price.—WALTER DONAGHHO, *Parkersburg, W. Va.*

My little boy and I feel that $1.50 is a modest price per year for so charming and helpful a magazine as BIRD-LORE.—KATHARINE UPHAM HUNTER, *West Claremont, N. H.*

By all means, let us have the magazine in its present, or even larger form, and raise the price to meet conditions. Personally I would not be without it at three times the price.—ANSEL B. MILLER, *Springs, Pa.*

Raise the rate. Everyone knows that BIRD-LORE is small enough as it is, and I have always been at a loss to understand how the magazine could be produced for the price.—MARY E. RAKER, *Portland, Ore.*

I never find BIRD-LORE large enough. There is never too much of it. I would gladly pay more for it rather than have the size reduced.—CORDELIA A. STANWOOD, *Ellsworth, Me.*

As I have every number of BIRD-LORE from No. 1, I feel qualified to speak on 'the question before the house.' You have a magazine of convenient size. Let it continue! Your quality has constantly been improving. Let it continue! The price, under the existing conditions, must be raised. Raise it!—FREDERICK J. DIXON, *Hackensack, N. J.*

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PL.

1. CLIFF SWALLOW, Adult
2. CLIFF SWALLOW, Young
3. VIOLET-GREEN SWALLOW, Adult
4. TREE SWALLOW, Adult
5. TREE SWALLOW, Young
6. ROUGH-WINGED SWALLOW
7. BANK SWALLOW

(About one-half natural size)

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

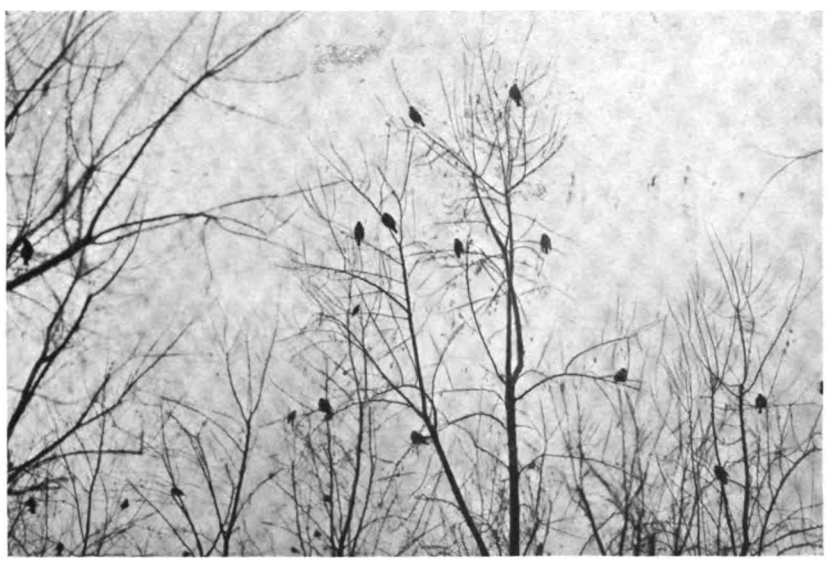
Vol. XIX NOVEMBER—DECEMBER, 1917 No. 6

Winter Visitors to City Park, Denver, Col.

By J. D. FIGGINS
With photographs by the Author

PRIOR to the completion of improvements at the eastern end of City Park, Denver, that area was locally famous for the variety and number of birds that wintered there. With the gradual extension of lawns and the consequent elimination of all seed-bearing weeds, birds were greatly reduced in numbers until many species are now rare, or have ceased visiting the park altogether, except for short periods.

During the fall of 1916, efforts were made to attract birds by feeding, but with indifferent success, owing to the abundance of natural food outside the city limits, and because of the activities of the English Sparrow.



BOHEMIAN WAXWINGS FEEDING ON RUSSIAN OLIVES

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However, a liberal supply of beef suet, mixed with ground kernels of nuts, proved acceptable to seven Flickers that spent the winter about the Museum building.

Crested Jays, Rocky Mountain Chickadees, Solitaires, Rocky Mountain Nuthatches, Rocky Mountain Creepers, and Siskins were occasionally seen, but in far from the numbers observed in former years. Horned Larks were equally scarce, only a dozen birds being seen during the winter months, when, in previous years, there had been hundreds.

"THE WAXWINGS WOULD FLY TO THE TREES"

Owing to the mildness of the weather during the first half of February, 1917, Robins made their appearance earlier than usual and in enormous numbers. With them came many Solitaires, both feeding upon the fruit of the Russian olive and *Crataegus;* but this source of food was insufficient for more than a few days, and the first snowstorm drove them to the foothills, where they had wintered.

On February 27, a report reached the Museum of the presence of Bohemian Waxwings in the vicinity of Golden, 18 miles west of Denver. Investigation

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DISTINGUISHED VISITORS

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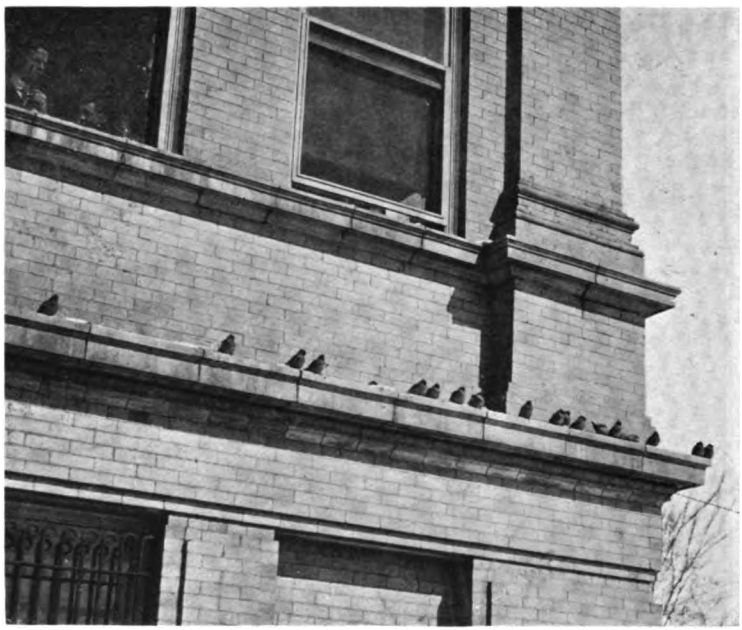
proved this to be correct, and more than 300 birds were found the following day, feeding upon decayed apples left in the orchards.

On February 22, Dr. W. H. Bergtold observed a large flock of unidentified birds which he now believes to have been Waxwings, because of their later



BOHEMIAN WAXWINGS VISITING THE DENVER MUSEUM

abundance in the city. On the morning of February 28, a flock of about 75 was seen feeding upon the fruit of the wild rose and the remnants of the Russian olives, near the Museum, and notwithstanding the 'high cost of living' it was determined to induce these birds to remain as long as possible. As canned peas and cranberries resembled the Russian olives and rose 'apples' in appearance, these were tried and proved highly successful in attracting the Waxwings' attention. In the meantime the original flock had been augmented by the arrival of additional birds until fully 300 were assembled. After gorging themselves, the Waxwings would fly to the trees and, after a short period, take quantities of wet snow. Within less than a half hour they would again feed, and the amount they consumed was astonishing.

Photographing the birds on the feeding-ground was a failure because of the continual movement and confusion. A few cranberries were therefore stuck on a twig near the blind, with more satisfactory results.

With a view of making a more intimate study of the Waxwings, a Sparrow-trap was set, and, by enlarging the opening, a number of specimens were soon obtained.

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It was astonishing how quickly the birds became reconciled to captivity. Within a few hours they were seemingly content with their new environment, and the day after being captured were feeding from one's hand. Apples appeared to be favored in preference to all other foods offered them, and when the door of their cage was opened, they would alight upon the inserted arm and hand, and, in that position, they could be carried about the room, flying only when the last vestige of the apple had disappeared. When allowed their liberty in the room, it was only necessary to produce a piece of apple to again assemble them on the hand and transfer them to their cage.

From the many reliable reports received and the daily evidence of large flocks of Waxwings in every section of Denver and the vicinity, it is evident the birds were present in great numbers. Single flocks of more than 1,000 have been noted on several occasions, and the total number of these interesting visitors in all probability exceeded 10,000. This, however, must be considered purely a guess, as it would be quite impossible to estimate them because of the constant movements of flocks from one part of the city to another.

THE 'ACADIAN' CHICKADEE ARRIVES NEARLY ON TIME!
Photographed by Maunsell S. Crosby, Rhinebeck, N. Y., winter of 1916–17

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Taming Evening Grosbeaks

By EDITH K. DUNTON, Rutland, Vt.
With photographs by Louis F. Brehmer

IT WAS a bitter disappointment to learn, from a note in BIRD-LORE for January, 1917, that my experience this past March and April in feeding Evening Grosbeaks out of my hand on my window-sills is not unique. I hope, however, that the accompanying photographs may be of sufficient interest to warrant comment. It is one thing to get the birds to the sill with the window closed, or open only enough to admit one's hand, and quite another to open it a foot or so, thus subjecting the birds to a draft, which they dislike, because it interferes with easy landing on the narrow sill. It gives them, too, a clear view of the room within and of the unfamiliar camera, a dark tower of terror, not 4 feet away from their feeding-ground, with the camera man sitting behind it. I am only an amateur bird-tamer, while Mr. L. F. Brehmer is a professional photographer, with birds for his favorite subjects. Thus was the feat accomplished.

As many as eleven Grosbeaks have been seen feeding together on one sill 3 feet long and 8 inches wide. The first 'sitting,' on March 1, resulted in getting four birds. Mr. Brehmer thought these looked rather a small number for the size of the window, and wished to try again. This time the photograph of six birds was secured, and we made an unsuccessful attempt to get them photographed while feeding from my hand. The third sitting, on March 6, was devoted entirely to this object. I had never had any trouble in getting certain birds, females and young ones, to eat in that way within a few minutes. But, for a successful photograph, the bird must feed from the side where it will be best seen. The hand must remain at the spot prearranged for a focus, instead of being moved temptingly toward a bird. The window must be open wider than usual, and camera and operator are also disturbing elements. However, within three-quarters of an hour we had secured three successful pictures of hand-fed birds.

"I am very glad we got those pictures," said Mr. Brehmer later. "You had told me that you fed the birds that way, and I knew it to be so, but I did not—realize it," he concluded, choosing his word politely.

Not only I, but two other members of the household and two friends have had the pleasure of feeling those big, efficient bills peck seed from their palms and crack off the shells above their fingers. I do not flatter myself that the birds recognize me as their 'provider.' Anyone who moves slowly and quietly can get as near to them as I can. Two of us have stroked their soft breasts. One day six birds quarreled to get to my hand; frequently two have fed together from opposite sides, and sometimes I have pushed the pair apart when they began to quarrel over their food-tray—which they evidently regard as a dish, not as a hand.

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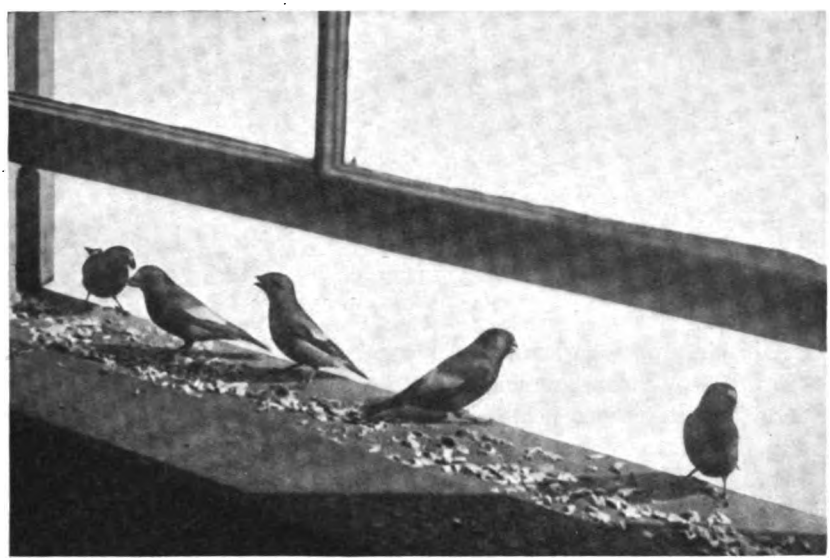
My flock of Grosbeaks, which has spent part of every morning but one, and all of most mornings, in my yard since the middle of February, has varied in size from three birds to over thirty. They came to the yard, a well-treed half-acre in the center of Rutland, Vt., attracted by a few buckthorn berries. This was in early February, after they had pretty well cleaned up the town's supply of box elder. About the middle of February, seeing that the berries would not long outlast their voracious appetites, I bought sunflower seed, nailed an open box to a fence-post under the buckthorn bush, and had to wait less than an hour to have it literally filled with Grosbeaks. The berries took second place thereafter.



"AS MANY AS ELEVEN GROSBEAKS HAVE BEEN SEEN FEEDING TOGETHER ON ONE SILL THREE FEET LONG AND EIGHT INCHES WIDE"

In a day or so, twenty Grosbeaks, all a flutter of black and yellow and white against the sunlit snow, perched on or in, or hovered closely about, the little improvised feeder. The box was about 30 feet from the nearest window, in a thicket that slightly obscured the view. I sprinkled seed on the ground under the box and so gradually trailed the birds on to the open lawn. Then a visitor to the house said scornfully, "Mr. Baynes has feeding-boxes in his windows." I got the birds close to the house, sprinkled seed up a sloping board to a cornice, and so led them on to the dining-room window-sill. A few days later they were also feeding from a second-story sill above the dining-room and from a roof and sill on the other side of the house. On February 27 they fed from my hands. On March 15, wishing to share my birds with a little neighbor who was quarantined, I made a sunflower trail from under a tree between our two houses, where the flock often perched between meals, to her piazza. Then she threw seed

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lavishly on her piazza roof. It took the birds less than a day to discover the feast awaiting them. They spent one entire day feeding there; the next day they came back to me for a short time, and thereafter, while she fed them, divided their mornings between us. At this period the flock increased in size, to match the increased food-supply.

AN EXCHANGE OF COURTESIES

Certain birds we soon learned to recognize, and these we named. There was 'Crosspatch,' a lank, crotchety female with a marred bill and 'Ruffles,' female or immature, who holds his head in such a fashion that his feathers stand up in a sort of pompadour. 'Ruffles' and 'Crosspatch' are the tamest of the regular visitors. 'Ruffles' is very quarrelsome but very crafty, never failing to snatch a seed between battles. 'Tête Noir' is a male with barely a suggestion of gold on his head; the 'Crown Prince' has an extra gold band at the back of his head, joining the two lines over his eyes and making him a golden crown; 'Picot' has a deep scallop of gold on his forehead; the 'Daffodil' is the yellowest and proudest of all the adult males, and the tamest; 'Tiny Tim' is so little that he never gets much chance on the window.

At first the birds were very quiet, both in the trees and when feeding. Later they became quarrelsome, attacking one another with their beaks and fighting in the air, and sometimes on the snow, where their fluttering made beautiful wing-tracks. This fighting spirit was undoubtedly fostered by having to feed in cramped quarters. When seed is put in the box, on the ground, and in the windows, or on the ground alone, sprinkled abundantly, the Grosbeak colony is quite serene. On the ground they feed in amity with the Sparrows, but woe betide the luckless Sparrow that ventures on a window-sill, where space is precious.

When the birds come—about 6 o'clock each morning, and between feedings —they perch in the tallest tree-tops, fluffed out against the spring winds, and sit

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perfectly motionless, balls of gray, or golden fruit. Snow or rain matter not to them. Except on one bitter, blizzardy day, they have always perched against the sky-line. They chirp incessantly, like frogs or crickets—or perhaps they sound more like the jingle of small sleigh-bells going slowly over a rutty road. When feeding they give a less musical chirp. Once or twice we have heard their beautiful carolling song, and they have occasionally a soft, throaty trill, almost like a Bluebird's note. So noisy and so conspicuous have they been—particularly on two days, March 8 and 9, when they were joined by a flock of disdainful Cedar Waxwings, annoyed to find the buckthorn feast that they had enjoyed for two years gone—that chance passers-by frequently stop to watch them as they squeak in the tree-tops, fly showily from tree to window, and perch there, cracking the sunflower seeds with incredible ease and rapidity.

Dozens of people have observed them from the vantage-ground of the dining-room, often sitting within a yard or less of the window. The one day they failed to come the family fought against depression, though the phenomenon should have been staled by a month's daily repetition; and the day they came back we were overjoyed, all of us echoing the rapturous exclamation of one of us: "Seems to me they never looked so pretty before!" As a matter of fact, the springtime attrition of their feathers was then just beginning to be noticeable. Every day made the females a bit daintier, the males more brilliant.

Contrary to the experience of Mr. Allen, of Ithaca, N. Y., as related in BIRD-LORE for November, 1914, I do not find the Grosbeaks either stolid or stupid. They are surprisingly quick to discover new places where I scatter

GROSBEAK GUESTS

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seed—the food is hardly put out before a bird is at it. The females and young are generally the first to come to a new feeding-spot, being tamer, more alert, and fully as greedy as the adult males, who can best defend their right to a place on a frequented window. But it was the males who discovered a pan of water, set out on March 30, not five minutes after its appearance. And there was nothing stolid about the eagerness with which they daily, as soon as fresh water was put in, surrounded and drank from it.

About March 12 they seemed tamer than at a later date. Possibly there were too many visitors after the fame of their performance spread. Certainly, an effort to catch and band one or two birds made them more wary, though they appeared in larger numbers than ever. On April 4, a bird, female or immature, was caught in an improvised trap made of a cucumber frame and was banded. He was not badly frightened, for in less than two hours he was feeding on the site of his capture; and his companions paid not the slightest attention to the affair, except to fly up for a few moments. The next morning we caught an adult male and banded him. He flew to the bush nearest the window where he was released and immediately joined the flock, which was then picking at a freshly uncovered flower-bed in the next yard. So little did the band disturb him that he apparently did not even pick at it, as we had seen the other bird do. At 1.30 that afternoon he was eating seed on the exact spot where he was caught in the morning—the trap had permanently vanished from the scene, as two birds were all we wished to band—and beside him, with two other birds, ate the banded gray bird.

If the banded birds come back next fall, or if any of their flock-mates do, we promise a table spread to repletion. No objection to any Grosbeak's bringing a large family of children, or friends; all Grosbeaks made welcome. Improvements to the premises will be undertaken in their interest, such as a sunflower plantation, mountain-ash, box elder, and more buckthorn—which last, Grosbeaks are respectfully requested to share with the Waxwings.

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A Remarkable Martin Roost in the City of Washington

By HARRY C. OBERHOLSER

LATE summer roosts of the Purple Martin are by no means uncommon in the eastern United States. Little attention, however, seems to have been called to this interesting event in the life-history of one of our most familiar birds. Even so long ago as Audubon's time, small gatherings of this kind were noticed, and the circumstance has been mentioned briefly by a few subsequent authors. Mr. William Brewster, in his 'Birds of the Cambridge Region,' notes a small resort in a maple swamp near Cambridge, Mass.,occupied in August, 1869. Dr. J. M. Wheaton, in his 'Birds of Ohio,' speaks of numbers of Martins that roosted under the cornices of buildings in the towns, and the present writer has more recently seen this same phenomenon in the city of Wooster, Ohio. Martin roosts seem to be more numerous in the southeastern states than elsewhere, and Mr. Arthur T. Wayne tells of one in the city of Charleston, S. C., occupied irregularly for several years by many thousand birds, so many, in fact, that their weight often broke limbs from the trees. By far the best account of this phase of Martin life has been given by Mr. Otto Widmann, who had, about the year 1884, exceptional opportunities for observing the Martins roosting in the swampy willow thickets along the Mississippi River, near St. Louis.

Although thus known in other localities, inquiry among local ornithologists has elicited no knowledge of a Martin roost in the District of Columbia prior to 1917. During the latter part of the summer of this year, however, great numbers of Martins gathered nightly in one of the city parks, almost within the shadow of the great Capitol building. This park is the more or less wooded tract called 'The Mall,' which, one block west of the Botanic Gardens, is crossed by Fourth Street, on which are the double tracks of a street-car line. This street is here lined on both sides at the curb by a row of elms, 30 to 50 feet in height, and beyond the sidewalk also by a row of European maples of somewhat smaller size; while oaks, horse-chestnuts, sophoras, and other shade trees are scattered about in adjacent parts of the park.

The Martins were first noticed at this roost on August 5, although for a week previous the birds had been seen in the evenings, flying in this direction. They were last observed here on September 9, a cool, cloudy day, and they all disappeared during the following twenty-four hours in the rapidly falling temperature, which, on the night of September 10, touched 40°, accompanied in places by a light frost. The number of Martins that frequented this roost fluctuated from time to time, ranging from about 2,500 on September 9 to about 12,000 at the height of activity on August 21; but it is safe to say that the usual number was between 7,000 and 8,000. This, of course, included a large proportion of birds from a distance, since it is far in excess of the summer Martin population of the region about Washington, there being but few breed-

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ing colonies within a radius of 20 miles from the city. It is of interest to note that this great flock was not made up wholly, or even very largely, of females and young, but contained a large proportion of birds in adult male plumage.

Every day, for some time previous to the hour of rendezvous at the roost, Martins could be seen drifting slowly in this direction from various parts of the surrounding country, in ones, twos, threes, and small flocks. They seemed to have temporary gathering-places in the country, where a number, 40 or 50, possibly even 100 birds, assembled before beginning their flight to the roost. About twenty-five or thirty minutes before sunset, which during this period of the year changes from 7.10 P.M. to 6.20 P.M., Martins begin to appear over the park and rapidly increase in numbers until the air is full of birds. Those coming from a distance approach the roost chiefly high in air, and fly leisurely back and forth above the city with apparently no concerted movement. Soon they begin to descend and assemble into more compact bodies, which move more rapidly and more uniformly, while newcomers take their places in the space above; lower and lower they come, swirling about low down over the tops of the trees, not, however, in the circling manner of the Chimney Swift, but much like a flock of Starlings or similar birds. In this swift flight above and among the tops of the trees, they dash into the chosen spots among the branches, often without reduction of speed, until just at the point of alighting—generally a few birds at a time, sometimes a whole company. Strangely enough, they choose the line of trees along the street-car tracks, and even the very branches overhanging the street. Here they sit in close rows on all the small terminal branches of the treetops, but only a few are visible from the outside. They appear to be restless when first they enter the trees, and often rise in great numbers, fly about for a short time, then settle into their places again. At this time the passing of an electric car usually startles large numbers from the trees, but after a few evolutions they gladly return. A little later in the evening, however, none of the noises of the street seems to disturb them. During all their evolutions in the air the birds are rather remarkably quiet, although their notes are frequently heard, and once settled in the trees their voices soon drop to a low murmur, occasionally broken by a louder voice. The whole performance lasts somewhat less than an hour, and all the guests at this Martin hotel are in their beds by twelve to thirty minutes after sunset.

Such is the sight to be seen here on a clear evening, but during cloudy weather the exhibition is much less spectacular, though it presents some interesting features of difference. On very dark days with lowering clouds the birds seem to be decidedly less numerous. They begin to gather earlier than on clear days and spend little time flying about high in the air or about the tree-tops. They fly lower and faster and go almost directly to rest after reaching the roosting place. There are thus fewer in the air at any given time than on clear days, and the birds are even more silent. The clouds and low atmospheric pressure seem to dampen their ardor and to lessen their unnecessary activity.

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In previous accounts of Martin-roosts no mention has been made of the presence of other birds, but this Washington gathering is remarkable among other things for the species associated with the Martins. During the period of Martin occupation, and for some time before and after as well, between 100 and 500 European Starlings and from 1,000 to 4,000 Purple Grackles were there also, using, to a certain extent, the same trees as the Martins, but chiefly other trees adjacent. Still more unusual was the presence on August 31, and probably on a few subsequent days, of about 200 Bank Swallows and 50 Rough-winged Swallows, which flocked with the Martins and roosted in the same trees!

It is to be hoped that so attractive a gathering will take place often in the waning summers of the years that are to come.

Bird-Lore's Eighteenth Christmas Bird Census

BIRD-LORE'S Annual Bird Census will be taken as usual on Christmas Day, or as near that date as circumstances will permit; *in no case should it be earlier than December 22 or later than the 28th*—in the Rocky Mountains and westward, December 20 to 26. Without wishing to appear ungrateful to those contributors who have assisted in making the Census so remarkably successful, lack of space compels us to ask each census taker to send only *one* census. Furthermore, much as we should like to print all the records sent, the number received has grown so large that we shall have to exclude those that do not appear to give a fair representation of the winter bird-life of the locality in which they were made. Lists of the comparatively few species that come to feeding-stations and those seen on walks of but an hour or two are usually very far from representative. A census-walk should last *four hours at the very least, and an all-day one is far preferable*, as one can then cover more of the different types of country in his vicinity, and thus secure a list more indicative of the birds present. A census covering several days would really be just that much more satisfactory, but, as few of our readers are in a position to take such, we think it better to rule that each report cover *one day only*, that all the censuses may be more comparable.

Bird clubs taking part are requested to compile the various lists obtained by their members and send the result as one census, with a statement of the number of separate ones it embraces. It should be signed by all the observers who have contributed to it. When two or more names are signed to a report, it should be stated whether the workers hunted together or separately. Only censuses that cover areas that are contiguous and with a total diameter not exceeding 15 miles should be combined into one census.

Each unusual record should be accompanied by a brief statement as to the identification. When such a record occurs in the combined list of parties that hunted separately, the names of those responsible for the record should be given.

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Reference to the February numbers of BIRD-LORE, 1901–17, will acquaint one with the nature of the report that we desire, but to those to whom none of these issues is available, we may explain that such reports should be headed by the locality, *date*, hour of starting and of returning, a brief statement of the character of the weather, whether the ground be bare or snow-covered, the direction and force of the wind, the temperature and the distance or area covered. Then should be given, *in the order of the A. O. U. 'Check-List'* (which is followed by most standard bird-books), a list of the species noted, with, as exactly as practicable, the number of *individuals* of each species recorded. A record should read, therefore, somewhat as follows:

Yonkers, N. Y. (to Bronxville and Tuckahoe and back).—Dec. 25; 8 A.M. to 4:30 P.M. Clear; 5 in. of snow; wind west, light; temp. 38° at start, 42° at return. Eleven miles on foot. Observers together. Herring Gull, 75; Bob-white, 12 (one covey); (Sharp-shinned?) Hawk, 1; . . . Ruby-crowned Kinglet, 1. Total, 27 species, about 470 individuals. The Ruby-crown was studied with 8x glasses at 20 ft.; eye-ring, absence of head-stripes and other points noted.—JAMES GATES and JOHN RAND.

These records will be published in the February issue of BIRD-LORE, and it is *particularly requested* that they be sent to the Editor (at the *American Museum of Natural History, New York City*) by the *first possible mail. It will save the Editor much clerical labor if the model here given and the order of the A. O. U. 'Check-List' be closely followed.*—C. H. R.

A CHRISTMAS BREAKFAST
PRAIRIE HORNED LARKS AND TREE SPARROWS
Photographed by Verdi Burtch, Branchport, N. Y.

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RED-TAIL HAWK ALIGHTING
Photograph by H. and E. Pittman, in Manitoba

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The Migration of North American Birds

SECOND SERIES*

1. FIVE SWALLOWS

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

(See frontispiece)

CLIFF SWALLOW

There are three subspecies of the Cliff Swallow (*Petrochelidon lunifrons*) in North America, all of which winter, probably, in South America. In migration, all Cliff Swallows of the United States and Canada, even those that breed in the eastern United States, journey both northward and southward apparently through Mexico and Central America, instead of crossing the Gulf of Mexico or passing through the West Indies.

The Eastern Cliff Swallow (*Petrochelidon lunifrons lunifrons*) breeds in North America, north to central Quebec, northern Ontario, Mackenzie, and central Alaska; and south to Lower California, Colorado, northern Texas, and Virginia.

The Lesser Cliff Swallow (*Petrochelidon lunifrons tachina*) breeds from Arizona (excepting the southern border), New Mexico, and south central Texas, south through eastern Mexico to Vera Cruz.

The Mexican Cliff Swallow (*Petrochelidon lunifrons melanogastris*) breeds from extreme southern Arizona south over the Mexican tableland to Guatemala.

The records marked with an asterisk in the following table of migration dates may refer to either the eastern Cliff Swallow or the Lesser Cliff Swallow. All the rest pertain exclusively to the eastern bird.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Orlando, Fla.			February 2, 1910
Charleston, S. C.			April 28, 1898
San Antonio, Tex.*			February 24, 1902
Austin, Tex.*	4	March 27	March 18, 1893
Kerrville, Tex.*	9	April 20	April 4, 1914
Chloride, N. M.*			April 3, 1914
Los Angeles, Calif.	5	March 18	March 8, 1896
Santa Barbara, Calif.	4	March 28	March 10, 1911
Fresno, Calif.	5	March 20	March 13, 1913
Berkeley, Calif.			March 5, 1913
Raleigh, N. C.	5	April 25	April 20, 1911
Variety Mills, Va.	2	April 24	April 11, 1887
Washington, D. C.	13	April 27	April 10, 1908
Athens, Tenn.	2	April 20	April 16, 1908
Versailles, Ky.	2	April 26	April 23, 1909
Onaga, Kans.	12	May 6	April 26, 1913
Boulder, Colo.	5	May 15	May 5, 1912
Morristown, N. J.			May 11, 1913
Beaver, Pa.	8	April 20	April 11, 1891

*Continuing the Series begun by Wells W. Cooke.

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Renovo, Pa.	12	April 29	April 22, 1899
Oberlin, Ohio	21	April 25	April 6, 1903
Waterloo, Ind.	10	April 29	April 17, 1894
Chicago, Ill.	19	April 26	April 11, 1887
St. Louis, Mo.	6	April 16	April 11, 1886
Keokuk, Iowa	11	April 20	April 16, 1895
Grinnell, Iowa	6	April 20	April 6, 1890
Valentine, Neb.	4	May 10	May 6, 1893
Hartford, Conn.	9	May 5	April 17, 1914
Woods Hole, Mass.	4	May 4	April 14, 1889
Boston, Mass.	19	May 6	April 23, 1897
Phillips, Maine	12	May 7	April 30, 1908
Pittsfield, Maine	5	April 27	April 21, 1899
Monadnock, N. H.	4	May 5	April 30, 1902
Rutland, Vt.	9	April 30	April 22, 1914
St. Johnsbury, Vt.	19	May 7	April 27, 1913
New York, N. Y.	8	May 10	April 21, 1904
Alfred, N. Y.	17	May 9	May 1, 1894
West Winfield, N. Y.	12	May 7	April 24, 1902
Ann Arbor, Mich.	22	April 26	April 11, 1889
Madison, Wis.	18	May 1	April 6, 1890
Lanesboro, Minn.	9	April 28	April 23, 1889
Vermilion, S. D.	5	May 8	May 3, 1884
Larimore, N. D.	4	May 16	April 30, 1886
Terry, Mont.	6	May 16	May 8, 1900
Big Sandy, Mont.	4	May 12	May 2, 1905
Meridian, Idaho	6	April 27	April 10, 1914
Corvallis, Oregon	2	April 10	April 7, 1906
Tacoma, Wash.	5	April 24	April 4, 1908
Halifax, N. S.			April 22, 1903
Pictou, N. S.	9	May 14	May 7, 1889
St. John, N. B.	6	May 8	April 30, 1893
Scotch Lake, N. B.	14	May 6	April 26, 1889
Montreal, Quebec	3	May 11	April 19, 1890
Quebec, Quebec	16	May 2	April 22, 1894
London, Ont.	11	May 1	April 19, 1900
Ottawa, Ont.	30	May 9	April 21, 1888
Aweme, Man.	9	May 14	April 28, 1899
Indian Head, Sask.	6	May 18	May 6, 1907
Stony Plain, Alta.	3	May 16	May 6, 1911
Edmonton, Alta.			May 3, 1887
Okanagan Landing, B. C.	10	May 6	April 23, 1911
Fort Chipewyan, Mack.			May 12, 1827
Nulato, Alaska			May 10, 1868

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
DeFuniak Springs, Fla.			September 26, 1909
Charleston, S. C.			August 30, 1904
Athens, Tenn.			September 26, 1908
New Orleans, La.			November 1, 1895
Austin, Tex.*	2	September 17	October 1, 1893

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FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Caddo, Okla.			October 9, 1883
Los Angeles, Calif.			September 12, 1907
Berkeley, Calif.			October 27, 1888
Fresno, Calif.			October 21, 1915
Washington, D. C.			August 11, 1888
Morristown, N. J.	3	August 26	September 1, 1912
Renovo, Pa.	10	August 26	September 18, 1908
Beaver, Pa.	3	August 26	September 3, 1891
Oberlin, Ohio.	4	August 28	September 23, 1907
Waterloo, Ind.	4	September 8	October 8, 1906
Chicago, Ill.	6	September 3	September 28, 1895
Concordia, Mo.	7	September 22	October 6, 1911
Keokuk, Iowa	9	September 8	September 23, 1894
Grinnell, Iowa	5	September 9	September 25, 1886
Onaga, Kans.	19	September 6	October 8, 1914
Valentine, Neb.	3	September 6	October 4, 1893
Boulder, Colo.	4	August 18	August 28, 1909
Hartford, Conn.	8	September 11	October 3, 1902
Woods Hole, Mass.	4	September 13	September 28, 1900
Harvard, Mass.	3	August 13	August 30, 1913
Phillips, Maine	9	August 26	September 9, 1915
Pittsfield, Maine	5	August 23	September 5, 1896
Jefferson, N. H.			September 17, 1904
St. Johnsbury, Vt.			September 13, 1914
Rutland, Vt.			September 8, 1915
West Winfield, N. Y.	4	August 29	September 6, 1910
Ballston Spa, N. Y.	3	August 6	August 10, 1892
Vicksburg, Mich.	4	August 30	September 9, 1906
Madison, Wis.	5	September 17	October 4, 1894
Lanesboro, Minn.	2	September 8	September 12, 1887
Vermilion, S. D.			September 15, 1889
Yellowstone Park, Wyo.	2	August 16	August 23, 1915
Columbia Falls, Mont.			September 4, 1895
Halifax, N. S.			August 30, 1902
Scotch Lake, N. B.	11	September 4	September 8, 1905
St. John, N. B.	5	September 3	September 9, 1892
North River, P. E. I.	4	August 23	September 4, 1888
Quebec, Quebec			August 23, 1894
Montreal, Quebec	3	September 10	September 25, 1897
Ottawa, Ont.	25	September 6	September 30, 1908
Aweme, Man.	10	August 29	September 24, 1897
Pelican Rapids, Athabaska River, Alta.			August 24, 1901
Okanagan Landing, B. C.	7	September 11	November 1, 1911
Dawson, Yukon			August 1, 1899

TREE SWALLOW

The Tree Swallow (*Iridoprocne bicolor*) ranges over most of North America, Mexico, and Guatemala, together with parts of the West Indies; breeding north to northern Ungava (Quebec), Manitoba, Mackenzie, and northwestern Alaska, south to southern California, central western Texas, Kansas, Missouri, and Virginia; and wintering regularly north to central California, southern Texas, southern North Carolina, sometimes to New Jersey, and south to Guatemala and Cuba.

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Although rather an early spring migrant, this Swallow is late in leaving its winter home, and stragglers linger in the southeastern United States long after the vanguard of its northern movement has penetrated far into Canada. The first list given below, under the head of spring migration, includes the dates of departure from the winter home of the species, and the second, the dates of arrival in its summer home. Conversely, under the fall migration, the first list gives the dates of departure from the summer range, and the second, of arrival in its place of winter sojourn.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Dry Tortugas, Fla.			May 5, 1913
Tallahassee, Fla.			May 5, 1900
Savannah, Ga.	6	May 21	May 29, 1911
Biloxi, Miss.	3	April 17	April 29, 1904
New Orleans, La.	3	May 12	May 17, 1893
San Antonio, Tex.			May 7, 1891
Charleston, S. C.	4	May 15	May 24, 1912
Raleigh, N. C.	14	April 29	May 22, 1909
Washington, D. C.	14	May 13	May 26, 1889
St. Louis, Mo.	4	May 2	May 9, 1888
Concordia, Mo.	4	May 11	May 23, 1911

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Washington, D. C.	23	April 12	March 28, 1912
Cambridge, Md.	6	April 4	March 23, 1913
Englewood, N. J.	16	April 9	March 24, 1905
Philadelphia, Pa.	12	April 25	April 4, 1912
Oberlin, Ohio	18	April 14	March 31, 1910
Waterloo, Ind.	9	April 24	April 3, 1906
Chicago, Ill.	24	April 15	March 24, 1884
St. Louis, Mo.	10	March 24	March 14, 1886
Onaga, Kans.	3	May 1	April 25, 1893
Sioux City, Iowa	11	April 25	April 8, 1906
Badger, Neb.	4	April 20	April 15, 1903
Durango, Colo.	4	April 23	April 9, 1914
Carson City, Nev.			March 25, 1868
Modesto, Calif.	4	March 1	February 19, 1911
Hartford, Conn.	17	April 15	March 29, 1914
Providence, R. I.	19	April 6	February 25, 1897
Boston, Mass.	28	April 4	March 15, 1902
Amherst, Mass.	6	April 18	April 7, 1892
Phillips, Maine	12	April 23	April 9, 1909
Portland, Maine	13	April 18	April 2, 1905
Tilton, N. H.	6	April 4	March 28, 1905
Bennington, Vt.	13	May 1	April 16, 1909
St. Johnsbury, Vt.	21	April 26	April 2, 1910
New York, N. Y.	21	April 18	April 1, 1893
Orient Point, L. I., N. Y.	5	March 25	March 15, 1908
Buffalo, N. Y.	12	April 24	April 7, 1888
Madison, Wis.	17	April 14	March 25, 1905

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Minneapolis, Minn.	15	April 18	March 29, 1907
Ann Arbor, Mich.	28	April 4	March 18, 1894
Vermilion, S. D.	3	April 26	April 21, 1913
Yellowstone Park, Wyo.			May 6, 1914
Missoula, Mont.			March 26, 1916
Great Falls, Mont.	4	April 29	April 28, 1891
Rathdrum, Idaho	4	March 24	March 10, 1908
Portland, Ore.	3	March 21	February 27, 1900
Seattle, Wash.	6	March 16	March 4, 1899 January 21, 1906
Halifax, N. S.	8	April 20	April 13, 1902
Pictou, N. S.	9	May 2	April 20, 1895
Scotch Lake, N. B.	20	April 27	April 17, 1906
St. John, N. B.	12	April 21	April 16, 1896
North River, P. E. I.	5	May 4	April 29, 1887
Montreal, Quebec	16	April 17	April 7, 1912
Quebec, Quebec	18	April 23	April 14, 1889
Ottawa, Ont.	33	April 10	March 28, 1897
Reaburn, Man.	6	May 2	April 26, 1894
Aweme, Man.	12	April 27	April 21, 1911
Indian Head, Sask.	7	May 10	April 29, 1908
Sturgeon River, Alta.			May 1, 1901
Edmonton, Alta.	8	May 8	April 24, 1908
Okanagan Landing, B. C.	9	March 20	March 13, 1910
Fort Simpson, Mack.			May 19, 1904
Fort Resolution, Mack.			May 12, 1860
Skagway, Alaska			May 31, 1899
St. Michaels, Alaska			May 24, 1880

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Norfolk, Va.	2	November 4	November 7, 1911
Washington, D. C.	5	September 22	October 17, 1911
Cambridge, Md.			November 2, 1914
Morristown, N. J.	15	October 12	October 30, 1915
Englewood, N. J.	8	October 9	October 18, 1885 December 31, 1882
Philadelphia, Pa.			September 9, 1890
Oberlin, Ohio	2	October 7	October 22, 1906
Waterloo, Ind.	3	September 28	October 11, 1905
Chicago, Ill.	6	September 17	October 16, 1896
Concordia, Mo.	4	September 21	September 23, 1909
Grinnell, Iowa	3	September 13	September 16, 1885
Badger, Neb.	3	September 11	September 18, 1903
Durango, Colo.			September 26, 1914
Hartford, Conn.	15	October 9	November 20, 1911
Providence, R. I.	17	August 25	September 25, 1898
Boston, Mass.	5	September 29	October 16, 1878
Phillips, Maine	8	August 19	September 8, 1909
Orono, Maine	3	September 1	September 11, 1915
Tilton, N. H.	6	August 29	September 9, 1908
St. Johnsbury, Vt.			August 27, 1914

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FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Orient Point, L. I., N. Y.	4	November 2	December 16, 1908
New York, N. Y.	13	September 25	October 18, 1904
Vicksburg, Mich.	9	September 28	October 26, 1902
Madison, Wis.	5	September 19	September 28, 1913
Minneapolis, Minn.			September 14, 1913
Vermilion, S. D.			September 13, 1889
Stump Lake, N. D.			September 20, 1909
Yellowstone Park, Wyo.	2	September 2	September 8, 1914
Missoula, Mont.			August 8, 1915
Priest River, Idaho	2	August 2	August 24, 1913
Seattle, Wash.	2	September 8	September 25, 1915
Halifax, N. S.	3	August 25	September 3, 1893
St. John, N. B.	9	September 9	October 2, 1892
Scotch Lake, Neb.	9	July 20	August 5, 1907
North River, P. E. I.	4	August 31	October 3, 1887
Quebec, Quebec	2	August 23	August 25, 1894
Montreal, Quebec	13	September 2	September 25, 1897
Ottawa, Ont.	20	August 9	September 6, 1887
London, Ont.			October 17, 1901
Aweme, Man.	16	September 6	September 9, 1899
Banff, Alta.			August 19, 1909
Okanagan Landing, B. C.	9	August 26	September 25, 1912
Sitka, Alaska			August 22, 1912

LOCALITY	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Fernandina, Fla.			August 15, 1906
Savannah, Ga.			July 23, 1908
Biloxi, Miss.	4	October 9	September 23, 1905
New Orleans, La.	3	August 2	July 8, 1893
Frogmore, S. C.	3	August 18	August 4, 1887
Norfolk, Va.	2	August 17	August 16, 1911
Washington, D. C.	10	July 29	July 3, 1912

VIOLET-GREEN SWALLOW

Two subspecies of the Violet-green Swallow are in summer confined to western North America. The third (*Tachycineta thalassina thalassina*) is found only in Mexico. The Northern Violet-green Swallow (*Tachycineta thalassina lepida*) breeds north to Alaska and Yukon; west to the Pacific Coast; south to northern Lower California and northern Durango, Mex.; and east to western Nebraska, western South Dakota, and southeastern Alberta. The San Lucas Swallow (*Tachycineta thalassina brachyptera*) is resident in the southern half of the peninsula of Lower California, and does not, so far as known, migrate to any extent. All of the following migration data pertain, therefore, to the northernmost form.

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SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Chloride, N. M.	2	April 1	March 30, 1915
Yuma, Ariz.			March 11, 1902
Fort Verde, Ariz.			March 26, 1887
Los Angeles, Calif.			February 16, 1895
Santa Barbara, Calif.	3	February 23	February 16, 1911
Fresno, Calif.	4	March 14	March 6, 1914
Beulah, Colo.	12	May 10	May 2, 1912
Boulder, Colo.	5	May 7	April 22, 1916
Yellowstone Park, Wyo.			May 11, 1914
Rathdrum, Idaho	3	April 5	March 24, 1901
Portland, Ore.	6	March 22	March 7, 1915
Tacoma, Wash.	6	March 18	March 14, 1905
Okanagan Landing, B. C.	9	March 18	March 8, 1910
Red Deer, Alta.			May 7, 1893
Stony Plain, Alta.			April 26, 1911
Fort Hamlin, Alaska			May 27, 1898

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
San Angelo, Tex.			October 1, 1886
Chloride, N. M.			September 23, 1915
Fort Verde, Ariz.			September 11, 1885
Los Angeles, Calif.			October 20, 1894
Fresno, Calif.			October 8, 1905
Beulah, Colo.	8	August 23	September 7, 1915
Boulder, Colo.	4	August 24	September 9, 1912
Yellowstone Park, Wyo.	2	August 13	August 18, 1914
Corvallis, Ore.			September 27, 1904
Okanagan Landing, B. C.	7	September 12	October 5, 1905

BANK SWALLOW

The Bank Swallow (*Riparia riparia riparia*) breeds over most of North America, north to northern Alaska and northern Ungava (Quebec); south to southern California, Arizona, Texas, Louisiana, and North Carolina. It is, however, very local in summer throughout the southern part of its breeding range. Its migration route is chiefly through Mexico and Central America, as it is of scarcely more than casual occurrence in the West Indies. Its winter home is in South America.

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SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Chipley, Fla.	2	March 26	March 23, 1904
Biloxi, Miss.	2	March 26	March 25, 1901
Santa Barbara, Calif.			April 8, 1910
Hendersonville, N. C.	4	April 16	April 2, 1912
Athens, Tenn.	8	April 18	April 6, 1908
Helena, Ark.	7	April 3	March 26, 1897
Variety Mills, Va.	13	April 21	April 11, 1914
Washington, D. C.	18	April 23	April 10, 1904
White Sulphur Springs, W. Va.	8	April 11	April 6, 1895
St. Louis, Mo.	8	April 23	April 21, 1910
Manhattan, Kans.	5	April 22	April 12, 1883
Denver, Colo.	4	May 7	April 27, 1907
Morristown, N. J.	13	April 27	April 12, 1908
Philadelphia, Pa.	9	April 24	April 8, 1888
Renovo, Pa.	20	April 29	April 13, 1897
Oberlin, Ohio	20	April 22	April 6, 1902
Fort Wayne, Ind.	10	May 5	April 18, 1916
Chicago, Ill.	15	April 30	April 21, 1907
Sioux City, Iowa	13	May 8	April 25, 1899
Neligh, Neb.	3	April 28	April 21, 1914
Phillips, Maine	11	May 11	May 6, 1913
Hanover, N. H.	5	April 30	April 17, 1890
Bennington, Vt.	10	May 13	May 1, 1915
St. Johnsbury, Vt.	20	May 5	April 27, 1915
Boston, Mass.	7	May 5	April 28, 1909
Block Island, R. I.	5	May 3	April 24, 1915
Hartford, Conn.	11	May 1	April 20, 1888
New York, N. Y.	11	May 8	April 30, 1914
Shelter Island, N. Y.	10	May 6	April 20, 1891
Buffalo, N. Y.	7	May 4	April 16, 1916
Geneva, N. Y.	10	May 1	April 19, 1908
Ann Arbor, Mich.	16	April 22	April 11, 1889
Madison, Wis.	17	April 25	April 12, 1901
Minneapolis, Minn.	15	April 29	April 17, 1886
Springfield, S. D.	2	May 12	May 6, 1909
Larimore, N. D.	3	May 9	April 28, 1890
Bozeman, Mont.	3	May 15	May 7, 1912
Rupert, Idaho	3	April 24	April 19, 1911
Narrows, Ore.			May 5, 1914
Grand Manan, N. B.	5	May 15	April 27, 1889
North River, P. E. I.	4	May 20	May 12, 1889
Montreal, Quebec	2	May 9	May 6, 1912
Quebec, Quebec	2	May 13	May 6, 1889
Ottawa, Ont.	31	May 11	August 29, 1912
Aweme, Man.	11	May 14	April 28, 1911
Indian Head, Sask.	4	May 5	April 27, 1913
Edmonton, Alta.			May 8, 1903
Okanagan Landing, B. C.	5	May 12	April 28, 1915
Fort Simpson, Mack.			May 26, 1904
Kowak River, Alaska			May 25, 1899

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FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Hendersonville, N. C.			September 4, 1912
Biloxi, Miss.	2		September 24, 1900
Tivoli, Tex.			October 3, 1915
Fort Verde, Ariz.			September 7, 1886
Washington, D. C.	4	September 14	September 19, 1886
Athens, Tenn.	4	September 8	September 29, 1908
Morristown, N. J.	7	August 21	September 6, 1912
Philadelphia, Pa.			September 30, 1906
Renovo, Pa.	16	August 17	August 30, 1903
Oberlin, Ohio	4	September 5	October 7, 1907
Chicago, Ill.	3	September 1	September 16, 1896
Concordia, Mo.	6	September 16	September 29, 1911
Boulder, Colo.	3	August 10	August 21, 1910
Phillips, Maine	7	July 28	August 31, 1912
Jefferson, N. H.			September 6, 1909
St. Johnsbury, Vt.	2	August 10	August 15, 1914
Woods Hole, Mass.			September 9, 1893
Block Island, R. I.	3	August 24	September 2, 1912
Hartford, Conn.	19	September 23	October 15, 1900
New York, N. Y.	4	September 2	September 22, 1904
Ithaca, N. Y.			September 26, 1908
Geneva, N. Y.	2	August 22	August 22, 1914
Detroit, Mich.			September 29, 1912
Ann Arbor, Mich.			September 3, 1915
Madison, Wis.	6	September 8	September 20, 1911
Sioux City, Iowa	2		September 3, 1917
Minneapolis, Minn.			September 22, 1906
Yellowstone Park, Wyo.			August 17, 1915
Bozeman, Mont.			August 28, 1912
Rupert, Idaho			September 9, 1911
North River, P. E. I.	3	August 18	August 25, 1888
Montreal, Quebec	5	August 28	September 9, 1891
Quebec, Quebec			August 25, 1894
Ottawa, Ont.	24	August 26	September 15, 1911
Aweme, Man.	19	August 21	August 31, 1900
Okanagan Landing, B. C.	6	August 20	September 27, 1915
Kowak River, Alaska			August 19, 1898

ROUGH-WINGED SWALLOW

The Rough-winged Swallow (*Stelgidopteryx serripennis serripennis*) breeds in the United States, southern Canada, and Mexico; north to Massachusetts, New York, Ontario, Minnesota, Montana, and southern British Columbia; and south to the southern United States and central Mexico. It winters from central Mexico south to Central America and Costa Rica.

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SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Amelia I., Fla.			September 21, 1906
Savannah, Ga.	9	April 2	March 10, 1912
Atlanta, Ga.	8	April 8	March 28, 1917
Autaugaville, Ala.	2	April 7	April 3, 1914
Biloxi, Miss.			March 30, 1906
Baton Rouge, La.			March 23, 1903
San Antonio, Tex.	9	February 23	February 15, 1889
Yuma, Ariz.			March 12, 1902
Adonde, Ariz.			February 28, 1894
Tombstone, Ariz.	3	March 28	February 25, 1912
Fort Verde, Ariz.	4	April 6	March 21, 1887
Santa Barbara, Calif.	3	March 19	March 11, 1911
Fresno, Calif.	3	April 5	March 31, 1914
Frogmore, S. C.	6	April 2	March 21, 1886
Raleigh, N. C.	23	April 8	March 28, 1908
Variety Mills, Va.	13	April 10	March 27, 1890
Washington, D. C.	30	April 11	March 31, 1912
Bowling Green, Ky.			April 6, 1902
Helena, Ark.	18	March 24	March 21, 1897
Philadelphia, Pa.	6	April 21	April 13, 1905
Beaver, Pa.	4	April 21	April 14, 1891
Morristown, N. J.	14	April 27	April 15, 1912
Oberlin, Ohio	20	April 26	April 16, 1902
Richmond, Ind.	8	April 24	April 11, 1909
Chicago, Ill.	6	May 7	April 27, 1895
St. Louis, Mo.	8	April 15	April 5, 1888
Onaga, Kans.	13	April 28	April 16, 1891
Colorado Springs, Colo.	6	May 11	April 29, 1906
New Haven, Conn.			April 30, 1907
Hartford, Conn.	4	May 11	May 4, 1904
Boston, Mass.	4	May 1	April 29, 1913
Western Mass.	6	May 12	
Bennington, Vt.	6	May 6	April 25, 1915
New York, N. Y.			April 24, 1914
Ballston Spa, N. Y.	9	May 4	April 21, 1900
Geneva, N. Y.	10	April 26	April 16, 1916
Ann Arbor, Mich.	10	April 28	April 17, 1910
Madison, Wis.	8	April 27	April 17, 1914
Keokuk, Iowa	9	April 15	March 27, 1898
Sioux City, Iowa	7	May 3	April 22, 1916
Lanesboro, Minn.	10	April 20	April 14, 1888
Red Cloud, Neb.	11	April 29	April 18, 1911
Vermilion, S. D.	3	April 28	April 19, 1913
Cheyenne, Wyo.			May 24, 1888
Yellowstone Park, Wyo.			May 27, 1914
Missoula, Mont.	2	April 27	April 25, 1915
Newport, Oregon	2	May 2	April 20, 1901
Tacoma, Wash.	6	April 12	April 3, 1905
London, Ont.	10	April 25	April 17, 1914
Okanagan Landing, B. C.	8	April 26	April 18, 1907

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FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Savannah, Ga.			October 15, 1909
Biloxi, Miss.	4	September 21	October 25, 1905
Raleigh, N. C.	2	June 24	June 26, 1889
Helena, Ark.			September 21, 1894
Washington, D. C.			September 3, 1894
Morristown, N. J.	3	August 15	September 6, 1914
Oberlin, Ohio	5	August 18	September 23, 1907
Richmond, Ind.	2	September 10	September 15, 1908
Horseshoe Lake, Mo.			October 13, 1905
Onaga, Kans.	5	August 26	September 30, 1892
New Haven, Conn.			August 13, 1903
Harvard, Mass.	4	July 24	August 4, 1909
Lynn, Mass.			September 3, 1911
New York, N. Y.			October 4, 1914
Ballston Spa, N. Y.	3	July 18	July 24, 1890
Geneva, N. Y.	2	August 17	August 22, 1915
Ann Arbor, Mich.			October 23, 1915
Madison, Wis.			August 22, 1914
Lanesboro, Minn.	3	August 24	August 26, 1888
Boulder, Colo.			August 14, 1910
Yellowstone Park, Wyo.			August 25, 1914
Missoula, Mont.			August 28, 1915
Priest River, Idaho			July 24, 1914
Newport, Ore.			September 15, 1900
London, Ont.	2	August 7	August 12, 1902
Okanagan Landing, B. C.	5	September 9	September 28, 1905

Notes on the Plumage of North American Birds

FORTY-FIFTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Cliff Swallow (*Petrochelidon lunifrons*, Figs. 1, 2).—The adults of this species are alike in color, but the young bird (juvenal or nestling plumage), as Fuertes' figure (Fig. 2) clearly shows, is quite unlike its parents in many particulars. The crown and back are brownish, instead of steel-blue, there is no white mark across the brow, etc.

In this plumage the young bird migrates, and, as with most of our Swallows, the postjuvenal molt does not occur until winter quarters are reached. For this reason specimens are lacking to show its exact nature, but it evidently is complete, since, when the Cliff Swallows return to us in the spring, young and old cannot be distinguished.

Violet-green Swallow (*Tachycineta thalassina*, Fig. 3).—The plumage changes of this species doubtedless resemble those of its relation, the Tree Swallow. There is, however, a well-marked difference between the plumage of the male

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and female of this species, that of the latter being considerably duller, with, the upper parts, especially the crown, washed with bronze or brownish.

The nestling plumage is much like that of the Tree Swallow and consequently is quite unlike that of the adult. From the young Tree Swallow the young Violet-green may be known chiefly by a patch of white on the flanks and by the less abrupt definition of the white of the underparts from the brownish of the upper parts on the sides of the head and neck. But these differences are not sufficiently pronounced to distinguish the two in life.

A specimen taken in New Mexico, October 11, is undergoing a complete molt which apparently would have brought it into the plumage of the adult in winter. This differs from that of the adult in summer (as does that of the Tree Swallow) in having the tertials tipped with white, a marking which disappears with wear.

Tree Swallow (*Iridoprocne bicolor*, Figs. 4, 5).—There is practically no sexual difference in color in the Tree Swallow, but the nestling plumage (Fig. 5) is strikingly unlike that of the adult. The upperparts and tail are dull sooty grayish brown, usually without a trace of the iridescent bluish green so conspicuous in the adult; the wings are of much the same color but show greenish reflections; the underparts are slightly duller, less silky white than in the adult.

The birds begin their migration in this plumage, but, as Dwight has shown, between the latter part of August and October a complete molt occurs in which the young bird assumes the plumage of its parents.

There is no spring molt, and the summer plumage differs from that of winter only in the absence of whitish tips to the tertials.

Rough-winged Swallow (*Stelgidopteryx serripennis*, Fig. 6).—There is no sexual difference in color in this species, but the young in juvenal plumage differ from their parents in being washed with rusty, this color being clearer on the wing-coverts and margins to the inner wing-feathers and pronounced on the throat and breast, which are almost cinnamon.

The post-juvenal molt doubtless occurs, as Dwight remarks, after the birds leave us and are traveling to their winter homes in Central America. It brings the bird into the plumage of the adult, which exhibits no seasonal variations.

The adult Rough-wing somewhat resembles a young Tree Swallow in general coloration but is duskier below, especially on the breast.

Bank Swallow (*Riparia riparia*, Fig. 7).—The Bank Swallow is found in both the New World and the Old. The sexes are alike, and there is but little variation with age. The nestling plumage differs from that of the adult in being slightly tipped with brownish or grayish above, in having the throat more or less spotted with dusky and the tail squarer.

This plumage is worn until after the bird leaves us for its winter quarters in the tropics, and is replaced, before the birds' return to us, by one resembling that of the adult. The adults also molt after leaving us, and the slight differences between winter and summer plumage are doubtless due to wear.

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Notes from Field and Study

The American Crossbill

Although the American Crossbill may not be considered rare, it is one of our most remarkable and erratic birds, and there is a great deal of fascination in following it to its haunts. To be sure of seeing this strange bird at home, we must go to some of the wildest places, and even then, owing to its erratic and uncertain behavior, must be prepared for many disappointments, for the phrases 'rare intervals' and 'irregular' occur with annoying frequency in all our records of it which I have been able to examine. There are few places within its range with suitable trees where the bird has not been recorded at one time or another, for it is a great wanderer in winter. I have known of it nesting near Wolfville, Nova Scotia, in Manitoba, close to where I am writing, in the Cypress Hills, Saskatchewan, and in some parts of British Columbia.

I made an expedition to Red Deer, Alberta, some years ago, hearing that Crossbills were frequenting the tree-covered slopes of the 'divides,' but, although I stayed well into the breeding-season, did not find a nest, and suddenly the birds disappeared. Wherever there are evergreen trees, the birds will appear sooner or later, but that is as definite as it is safe to be.

This bird, of course, takes its name from the crossing of its two strong, curved mandibles, which, combined with the brilliant scarlet, yellow, or green plumage, gives it a truly remarkable Parrot-like appearance. This resemblance is not confined to appearance alone, but extends to habits also, for the Crossbill uses both bill and feet when climbing and is as fully qualified an acrobat as any Parrot I ever saw. I used to think the Chickadee one of our most agile birds, but it must retire to second place when a Crossbill comes along.

The remarkable development of the

YOUNG RED CROSSBILLS
Photographed by H. and E. Pittman

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bill is in reality a wonderful adaptation to the bird's mode of life, enabling it to extract the seeds from fir-cones with ease. The seeds of the cone-bearing trees are the principal food of this bird, but it also feeds to a certain extent upon weed-seeds and insects. As with most, if not all, of our Finches, it is very probable that the diet of the young is entirely insectivorous. Berries, including rose-berries, are also eaten. The Crossbill has a rather long tongue, and to watch one lick a hard piece of salt is a really interesting sight.

The Crossbill is a great conversationalist, and, when feeding among the tree-tops, keeps up a continual soft twittering. It will probably surprise many people to know that this bird is a good singer, the song being as sweet as that of the Canary and without any of its harsh qualities. In addition to the sweet song, it has a clear call resembling the syllables 'pink, pink,' but this, like the song, is gently uttered.

The nest is built rather high up in an evergreen and is a fairly neat cup of twigs and moss or grass, lined with fur and feathers. The eggs are of the Finch type, about .75 x .58, greenish white marked with dark brown and gray. The breeding-season is long, extending from January to June.

One associates this bird with the deep and silent woods, to which, I may say, it lends a welcome touch of life, but, occasionally, it will appear in odd places. One morning last summer I noticed a pair of young Crossbills on the wire of my corral and later saw them feeding on some oats the horses had spilled. We promptly scattered more grain and had the satisfaction of tempting them to stay for a time and also that of getting a series of photographs. They appeared to be birds of the year and seemed very affectionate, the male feeding the female with true gallantry. They were, like many of our northern visitors, particularly tame, and one could see them shelling the oats quite plainly. The experience was unusual and made up for some of the numerous disappointments of the naturalist-photographer.

The 'points' of the Crossbill then may be summed up as follows: crossed mandibles, plumage of scarlet, green or yellow (according to sex and age), confiding disposition, gentle voice, and somewhat heavy build, which, in life give it a rather chubby appearance.—H. H. PITTMAN, *Hartney, Manitoba.*

Winter Boarders

Late last fall, when we started taking in regular winter bird-boarders, we had a pair of Downy Woodpeckers, a pair of White-breasted Nuthatches, four Blue Jays, a half-dozen Juncos, four or five Tree Sparrows, one lone Chickadee, and a lot of English Sparrows. All but a half-dozen of the latter have been trapped and chloroformed. In late November a few Purple Finches appeared, and soon more and more came along, until now (early in February) there are more than a hundred of them.

Early in December a pair of Red-breasted Nuthatches showed up, and the solitary Chickadee now has three companions. The Juncos have also increased to a dozen or fifteen. There are three or four Sparrows that I am unable to identify. Occasionally some Goldfinches visit us, but they are not regular at their meals.

We have four feeding places—two trays at windows, one covered tray on the side of a tree, and one weather-vane food-house—all home-made. We feed the birds hemp seed, sunflower seed, pumpkin seed, cracked nuts, and suet. The window trays are largely monopolized by the Purple Finches, as many as thirty sometimes crowding in and about one tray. They keep up a constant protesting chatter while feeding, and show a disposition to be very quarrelsome among themselves, driving one another off the feeding-place. An occasional English Sparrow edges in now and then, and the Finches do not seem to resent it. Once in a while, a Chickadee darts in quickly, grabs a sunflower seed, and 'beats it' before the Finches know it. The Finches are consummate gluttons for hemp seed, sun-

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flower seed, and pumpkin seed. The latter seed, big and tough as they are, are easily crushed by the powerful bills of the Finches, who do most of their eating in the forenoon. About 2 or 3 o'clock in the afternoon they disappear, not to be seen again until the next day. When they have gone, chopped nuts are placed upon the window-trays, so that the Nuthatches and Chickadees may enjoy an undisturbed feast. The Blue Jays, of course, drive the Purple Finches away from the window-trays now and then, but their visits are short. The Finches have a fixed habit of gathering in the trees overlooking the trays and sitting there contemplating the coming feast, all the while uttering the short, sharp metallic chirp that is so characteristic of them. Finally one of them will drop down to the tray, and then the rest follow in crowds. When the tray is empty, they resume their perches in the trees and await the replenishing of the dining-table.

The food in the tray on the tree and in the weather-vane tray is largely patronized by the other birds while the Finches have possession of the window-trays. The Downy Woodpeckers, the Nuthatches and the Chickadees regularly visit the suet fastened against a tree near the kitchen door. I have not seen a Blue Jay eat suet this winter, although last summer they ate it early and often. A red squirrel sometimes helps himself to this piece of suet. A solitary Brown Creeper picks up the bits of suet dropped to the ground by the other birds, but I have yet to see him eat from the piece fastened to the tree, although he creeps all about it.

The Juncos and Tree Sparrows feed upon the ground, where we scatter hemp seed, seeming to prefer that place to the food-trays, although sometimes eating there. The Juncos and the unidentified Sparrows before mentioned appear at the first break of day. I have heard them 'cheeping' at their food before it was light enough to distinguish them clearly. The unidentified Sparrows remain eating until almost dark. The sun is well above the horizon before the Downy Woodpeckers, the Nuthatches and the Chickadees show up, while the Finches come along between the early risers and the late.

In a tree near the house we have a box about eighteen inches square, with a hole at one end, in which we put nuts for two gray squirrels that are very tame and come regularly for their meals. In this box we also put sunflower seeds, and the Nuthatches go right in after them like the squirrels. In this way their food is protected from the greedy and bullying Blue Jays who reach in for the seeds but do not dare to venture back like the Nuthatches.

Near this tree we have a concrete bird-bath, home-made, which is filled in the morning with hot water, and when ice begins to form it is swept out and refilled with hot water several times a day. This is immensely enjoyed by both the birds and the squirrels. The latter seem greatly to appreciate the novelty of hot water in winter, drinking deeply and frequently—so do the Blue Jays. The smaller birds gather around the steaming drinking-place, sit in the rising steam, and take a regular Russian bath. Quite often, even in very cold weather, the Purple Finches and English Sparrows hop right into the warm water and take a regulation 'Palm Beach dip.' The birds sit around watching the change of cold water to warm, and the Red-breasted Nuthatches are sometimes so impatient that they flutter close by while the change is being made. In a close observation for two years, I have never seen the Downy Woodpeckers take a drink of water at this bath, although they are constant visitors and very tame.

Among the hundreds of Purple Finches, we see but three or four males in their raspberry-red plumage. Can the editor say why, in so large a number, there should be so few males who are under the two years required to grow such feathers?

The Chickadee who first made his appearance last fall is unusually tame, sometimes sitting on the window-tray while chopped nuts are being placed upon it. The Red-breasted Nuthatches are

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just about as tame, while the White-breasted are a trifle more shy. The male Nuthatches appear to domineer over the females, not permitting them to visit the trays until the males have first taken a seed or nut and flown away with it. The male Downy will not allow his spouse to feed at the suet until his own appetite has been appeased. She sits near and keeps up her peculiar cry in the meantime. And yet I have seen a Downy, a Nuthatch, and a Chickadee all eating peacefully at the same piece of suet at one time. Possibly they were all males and were carrying out 'a gentlemen's agreement.'

The Chickadees and Nuthatches, after gorging themselves to satiety, carry away and hide sunflower seeds and bits of nuts, storing them in cracks of fences and in crevices in the bark of trees. Sometimes one bird will watch another do this, and then, when the coast is clear, proceed to appropriate for itself the hidden tit-bit. Blue Jays and squirrels do the same, and I have often observed them pilfering from each other. The Nuthatches sometimes hide morsels in the cracks of the very food-trays from which they get their regular meals, and when one discovers what another has hidden, it seems to relish that particular bite much more than the ample supply which is in plain sight.

We live in a neighborhood were there are many trees and many houses, but so far as I know we have all the birds with us, no one else seeming to be interested in these most wonderful and beautiful creatures. For our trouble we have been rewarded of late by the charming low song of the Purple Finches. They began singing late in January, which, from what I have read in bird literature, is rather early to hear music from the bird-choir in New Jersey. It surely is a sight, these wintry days, to see hundreds of birds so close to the house. They know their friends, and the only thing needed to get their confidence is to feed them regularly and move among them slowly and deliberately, avoiding any sudden motion or noise. We are only amateurs but are learning something new every day. Quite often our experience differs widely from what we read in the bird books.—BERT M. MOSES, *422 Gregory Ave., West Orange. N. J.*

A Bird Exhibit

The Bird Committee of the Civic Club of Chambersburg, Pa., held an exhibit in an empty storeroom, the week beginning Feb. 12, 1917.

One corner of the exhibit was given over to the winter foods of the birds. A very

BIRD EXHIBIT AT CHAMBERSBURG, PA., FEBRUARY 12, 1917

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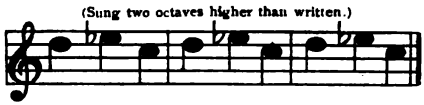
attractive part of the exhibit was a collection of nests kindly loaned by Miss Adelaide Bird of Wilson College. More than a hundred nesting-boxes had been brought in by the school-children of town and also by children from the rural schools. The members of our Junior Audubon Societies were, of course, most interested. Prizes were awarded to those having made the best boxes. Hundreds and hundreds of people came in during the week and showed the greatest interest in the work of this Committee. We were especially pleased to have many visitors from distant parts of the county. It means so much to interest our rural friends, for they can do so much more than we can when they become fully alive to the importance of bird-protection.—HELEN M. SELLERS, *Chambersburg, Pa.*

A Singing Blue Jay

We have a Blue Jay in our neighborhood which has been singing the following 'song' all summer:



He gives the exact pitch of these three notes, according to my piano, and apparently he is much pleased with his new composition, for he sings it over and over, very emphatically, day after day.

The Blue Jays have a great variety of notes, but I have never before heard these. —EMILY C. H. ARMSTRONG, *Hyde Park, Mass.*

Strange Behavior of a Robin

Very curious behavior on the part of a Robin was witnessed this past summer by various members of my family and myself. At the rear of our bungalow (near the north shore of Long Island) two electric light wires are stretched past the kitchen windows, about parallel with the wall of the house and with the ground. They are some 3½ feet from the windows, and a foot or so below the top.

The Robin would perch on the nearer wire, fly vigorously against one of the panes of glass, and then down to a small post, where the railing of the steps joins the horizontal railing of the landing. This post is almost directly under the wire and about on a level with the window-sill. Flying up from this post to the wire, he would repeat the 'stunt' indefinitely.

It appeared to be done simply for the fascination of dashing his breast (with wings spread) against the glass. There was no attempt to get through or past the glass, no fluttering against the pane as if trying to reach some object inside—simply the thump against the window and the quick slanting flight to the post (or, occasionally, directly back to the wire). This was repeated sometimes two or three times a minute and probably two or three hundred times a day. At first the presence of a person in the kitchen would frighten him away to a near-by tree; but soon he became quite indifferent to one moving about inside, and even vigorous measures to scare him away, such as shooing, clapping hands, and throwing water at him, served only to send him off for the moment.

At the end of five or six days we tied a strip of burlap across the upper portion of the window, against which he habitually flew. He then flew against the lower part of the window or against the other window, and even occasionally against the screen door. The whole performance lasted about two weeks, when he desisted and disappeared as suddenly as he came. The period was about the second and third weeks of July. There was never any sign that the bird was injuring himself or suffering any ill effects from his encounters with the window.

It is possible, of course, that the first time the Robin flew against the glass, he was seeking to get beyond it to some object in the kitchen, though no particular article seemed to us a likely objective. As stated above, there was no indication of such a purpose by the time his actions had come to our attention.

We should be very glad to hear whether similar actions have been observed before,

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and, if so, what explanation of them is accepted.—HERBERT L. COWING, *Whitneyville, Conn.*

[Similar actions by several species of birds have, from time to time, been recorded in BIRD-LORE. In most instances the bird appears to mistake its own image, reflected in the glass, for that of an individual of its own species against which it vainly but persistently launches its attacks.—ED.]

Cardinal Capturing a Cicada

That the Cardinal is not averse to partaking of insect food, and will even make considerable effort to secure it, is borne out by the following little incident which I observed on my lawn in Iowa City, August 18, 1917.

My first intimation of the affair occurred when I heard the quickly repeated *chuck* of a Cardinal, accompanied by the notes of a cicada (*Cicada sp.*), sounded very rapidly, as if the insect were much disturbed or excited. Upon looking in the direction of the commotion, I saw, flying rapidly toward the ground, 30 feet away from me, a cicada attempting to escape from a closely pursuing male Cardinal. The insect swerved and twisted in its flight, circling through a small cedar tree in attempting to evade his pursuer, but the Cardinal was not to be denied, and finally captured the cicada on the wing, a few feet from the ground. All the time the cicada was giving forth its familiar singing note, though in a different tone than when undisturbed. The Cardinal alighted on the ground with his prey and began pecking the fluttering insect, apparently for the purpose of rendering it helpless.

At this stage of the proceedings, the Cardinal was attacked by a pair of House Sparrows, one of which attempted to steal the insect from its captor, but the Cardinal flew into a small bush, closely pursued by the female House Sparrow, which was unsuccessful in wresting the prize from its rightful possessor. The pursued Cardinal flew back again from the bush to the ground near its original position when attacked by the Sparrows, and quickly proceeded to break off the wings of the cicada. The bird seemed rather to *cut* off the wings by sudden pressure of the mandibles, accompanied by a quick sidewise jerk of the head, and I was sufficiently close to the entire performance to hear distinctly the snap as the bird severed the insect's wings from its body. The Cardinal then pecked two or three holes in the cicada and flew away with the now helpless insect. The whole affair, as above described, occupied a period of not more than two minutes.—DAYTON STONER, *Iowa City, Iowa.*

Evening Grosbeaks at Cadillac, Mich.

I notice the report on Evening Grosbeaks often and wish to state that, a year ago last February, I had the pleasure of seeing a flock of fourteen of these beautiful birds at Cadillac, Mich., nine of them males and five females. They were feeding on box elder shade trees along the streets of the city in a much-used traffic portion.

They paid no attention to travel of man or beast. I observed them by standing directly in front of the short tree in which they were feeding and enjoyed to the fullest their chatter and lively feeding. I, again, this last March, in the same city, observed a flock of twenty-seven birds, of which I counted eighteen males and only nine females. I wonder if the males usually out-number the females among this species of winter migrants to these parts.

Winter birds seemed unusually plentiful the past year in Michigan. I noticed an abundance of Chickadees, while Snowbuntings and Purple Finches were more abundant than I have ever noticed them in this state, and more especially was this true of the northern part of the southern peninsula. I have also noticed the Black-billed Cuckoos as far north as Antrim County, near the Mackinaw Straits, an unusual occurrence.—ETHAN W. THOMPSON, 503 *Fuller Ave., Grand Rapids, Mich.*

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THE SEASON

IV. August 15 to October 15

BOSTON REGION.—Autumn came early this year; summer, delayed by the late spring, was shortened by the frosts of September.

One would suppose that the birds which had postponed breeding so long would not be ready to migrate on their customary dates. However, this was not the case, even with the birds that leave this region in August. For example, Chimney Swifts, Least Flycatchers, and Bobolinks, although two weeks behind time in arriving on their breeding-grounds, left, as usual, late in August. During the latter half of this month there was a conspicuous Warbler migration, made up chiefly of Ovenbirds, and Black and White and Tennessee Warblers. There was practically no autumnal flight of Red-breasted Nuthatches.

During September, birds were scarce and no heavy flight was noted. Bay-breasted and Cape May Warblers were prominent during the month, but the Black-poll, usually our most abundant Warbler of the autumn, occurred rarely.

At present (October 15) Hermit Thrushes, White-throated Sparrows, Slate-colored Juncos, and Myrtle Warblers are in active migration, the last three in large numbers. The Myrtle Warbler, one of the most regular migrants, did not appear until the second week of October—two weeks late. Chipping Sparrows have gathered in flocks, often of fifty birds or more, in preparation for departure.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK CITY REGION.—Our summer residents have been leaving us at about their regular times, notwithstanding the fact that caterpillars, in most remarkable variety of species and number of individuals, have been thronging the countryside. The shore-bird migration was, on the whole, normal in dates and numbers, though Mr. J. T. Nichols states that departure dates were a little late at Mastic, L. I., and that he saw rather fewer Black-bellied Plover and more Western and Stilt Sandpipers than usual there. The autumn transients of the Warbler family were late in appearing, but have passed through in about their usual numbers, except that the Black-poll, normally one of the most abundant, has been scarce, and others possibly somewhat so. The winter residents also are somewhat behind their schedule; White-throated Sparrows and Juncos were rather late in reaching us at all, and while both should now (October 15) be abundant, the former is no more than fairly common, and but few of the latter have been seen. Of the Red-breasted Nuthatch, so common two years ago and still more so last year, only one individual has been reported to me (by Mr. G. E. Hix). (This species was noticeably scarce in the White Mountains this season; and Pine Siskins and White-winged and Red Crossbills were absent or nearly so there.) Black-cap Chickadees are not common.—CHARLES H. ROGERS, *American Museum of Natural History, New York City.*

PHILADELPHIA REGION.—August temperature averaged three degrees above normal. No unusual movement of birds was observed. A number of trips along the New Jersey coast showed shore-birds present in increased numbers; this was especially noticeable among the smaller species, particularly the Sanderling. The Federal Law, no doubt, has aided materially in bringing this about. Maimed birds, hopping about on one foot, plainly showed, however, that the law had been disregarded by some. Common Terns and Laughing Gulls were common at all points visited, perhaps more so than for a number of years. Ospreys, I think, were present in normal numbers, though they are thought by some to be less common than formerly.

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A field-trip at Cape May, N. J., August 25, with David G. Baird, Dr. Witmer Stone, and J. Fletcher Street brought to light a Piping Plover, a Loggerhead Shrike, two small colonies of Short-billed Marsh Wrens, and a pair of Mockingbirds with a single young in juvenal plumage. Mr. Baird had noticed the adult Mockingbirds several times during the spring and summer. Mr. Street had previously located the Marsh Wrens on August 12. On August 26 the writer had the good fortune to see an Egret and two Little Blue Herons, no doubt part of a flock of these two species Mr. Stone had seen in the same locality about two weeks before. Probably there was an influx of Little Blue Herons into southern New Jersey during the late summer, as I have been informed that "White Herons" were observed at several different points.

September brought its usual quota of autumn transients. The weather averaged three degrees above normal, though especially cold from the 8th to the 12th. On the 10th large numbers of Redstarts were observed; apparently their presence was due to the sudden cold wave, but it may have been a perfectly normal movement, as no marked increase in any other species was observed.

The first Herring Gull was noticed September 7 flying over, with no apparent intention of staying about here for the winter; no others were seen until October 14. These were flying about over the Delaware River and were undoubtedly winter residents.—JULIAN K. POTTER, *Camden, N. J.*

THE WASHINGTON REGION.—The migratory movements of birds in the vicinity of Washington this fall have been, as they were during the spring, very irregular and somewhat out of the ordinary. Comparatively few of the Warblers and other earlier migrants made their appearance on time, and many of them not until considerably later than usual. The unprecedentedly cold weather of early September, however, had some effect on the later birds, for several species came in advance of their regular arrival. Most interesting of these are the Hermit Thrush, which appeared on September 21, though its average date is October 17; the Purple Finch, September 9 (average, October 21); the Ruby-crowned Kinglet, September 23 (average, October 1); and the Lesser Scaup Duck, three individuals of which we saw on August 31, whereas the earliest previous date is September 25, 1903! The cool weather, however, did not prevent several species from considerably outstaying their usual time, most conspicuous among which are the Rough-winged Swallow, seen August 31; the Purple Martin, September 9 (average date of departure, August 24); Acadian Flycatcher, September 9 (average date of departure, September 1); and the Canadian Warbler, seen September 20 (average date of departure, September 8). One species, the Orchard Oriole, was noted by Mr. A. Wetmore on September 9, seven days beyond the latest previous record, which was September 2, 1912.

Of considerable interest in its effect on migratory birds is the Washington Monument. This is a tapering shaft of light-colored stone, 65 feet square at its base and 555 feet high, which stands in a large open space of the city near the Potomac River. Its summit is now, and has been for a number of years, ordinarily illuminated at night by the beam of a distant searchlight. Many migrating small birds, particularly Warblers, strike this monument at night and fall dead at its base; but it does not seem to cause generally so much destruction in recent years as formerly when the shaft was entirely in darkness, a result just the opposite of what we should expect. During the present autumn, however, considerable loss of bird-life has been reported here, and on the morning of September 21, after a night of great activity among migrating birds, the following were picked up at the base of the monument: Northern Yellow-throat, 2; Ovenbird, 1; Black-throated Green Warbler, 1; Chestnut-sided Warbler, 1; Canadian Warbler, 1; American Redstart, 1. Fortunately for

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the birds, this great obelisk does not seem to be so dangerous as many lighthouses, which, by their brilliant lights, are much more seductive.

The Chimney Swifts are, as usual, roosting in large chimneys in the midst of the city of Washington. On two occasions, September 7 and 8, a flock of 300 to 400 was seen circling and entering a chimney from 10.30 to 11 o'clock, A.M. At that hour, on the first of these days, the weather was rainy, and on the other, damp and lowery.

An incident of bird-life, interesting from more than one standpoint, is a roost of European Starlings in one of the parks of the city, which was, throughout the months of August and September, occupied nightly by from 100 to 500 birds. The species has evidently come to Washington to stay, for there were several instances of its breeding in this vicinity during the past season. Occupying this same roost with the Starlings, and often associated with them in their flights to the place of rendezvous, were from 1,000 to 4,000 Purple Grackles. There were also, roosting with these, several thousand Purple Martins, an account of which appears in another article in the present number of BIRD-LORE.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D.C.*

OBERLIN REGION.—The most notable thing about the birds during the summer was the late singing and the late nesting of most of them. This was due, no doubt, to the exceptionally cold summer. Most of the birds were in nearly full song, even as late as the first week of September.

The migrations of transient birds began early in July, as usual, but the numbers of individuals was considerably increased over what is regarded as the average. Semipalmated Plover, Semipalmated Sandpipers, and Caspian Terns were noted on July 6. Swallows, Swifts, and Martins had left the region by the last week of August, which is much earlier than normal. Swifts are usually found until the last week of September, and Tree Swallows often linger into late October. On the other hand, transient Warblers are still present and seem to find abundant food among the leaves which still cling to the trees. The birds which feed almost exclusively upon flying insects which they catch in mid-air departed from two to four weeks early, while the seed-eaters and those which feed largely upon larvæ remained later than usual. This can be correlated with the available food-supply of each group.—LYNDS JONES, *Oberlin, Ohio.*

June 15–August 15

DENVER REGION.—The year 1917 has been of exceptional interest, ornithologically speaking, in this region, and while the period from June 15 to August 15 has exhibited no startling events, yet it has, in a measure, partaken of the unusual conditions characterizing 1917.

The Denver Region has been, and remains unusually verdant, and a much larger area than ordinary has been cultivated this season; whether or not these two conditions have lead to the *return* of several species and an increase in the frequency of others, the writer feels unable to decide. There is a much larger number of Bullock's Orioles in and about Denver than for several years past. The writer's records also seem to show a noticeable increase of Arkansas Goldfinches and a decidedly unusual number of Pale Goldfinches in Denver and its environs. Pine Siskins frequently linger about the city after the first brood is raised, until late in June, but all seemed to disappear this year from the Denver Region some time before June 15.

It is highly probable that the Western House Wren has nested successfully in Denver before, but such an occurrence has never, in twenty-three years' experience here, fallen to the writer's notice. This summer, however, a pair built a spurious nest in a nesting-box on the writer's premises, but placed their true nest in a neighboring yard; and it is highly probable that the Western Yellow-

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throat nested in the outskirts, though no nest was detected. So far as the writer can recall, he never saw so many Mourning Doves, nor so few Hawks in any corresponding 'June 15 to August 15' in the past, notwithstanding that a good deal of time has been spent motoring in the suburbs and the outlying areas. On the other hand, it is a pleasure to know that the Golden Eagle, the Turkey Vulture, and the Black Swift are still with us, since all three species have been seen at different times within 25 miles of Denver, between the dates that this report covers.

Shore-birds were heard migrating southward first on the night of August 12; Robins and Chipping Sparrows were observed gathering in small flocks on this date also, a very early one, due, perhaps, to a temporary 'cold spell' or to the early onset of low temperatures in the near-by mountains.

The usual Flycatchers have been in evidence, also Kingbirds, Arkansas Kingbirds, and Wood Pewees; and twice Cassin's Kingbird has been seen within the city limits. The companionable Black-headed Grosbeak has been very common; none of our summer birds is more of a lasting joy than this delightful singer, and his soft note of gentle encouragement to his mate or young would be missed sadly were this bird to disappear or leave us. The rank and file of our bird population did not fail us this summer; Robins, Chipping Sparrows, Yellow Warblers, Warbling Vireos, Bronzed Grackles, Brewer's Blackbirds, Say's Phœbes, Nighthawks, and a few Plumbeous Vireos helped to keep alive one's daily interest in his bird neighbors.

It is a renewed source of regret, disappointment, and resentment that our beautiful Mountain Bluebird has been almost completely frustrated in its attempt at nesting in Denver by the House Sparrow; the writer knows of no successful nesting within Denver during this past summer.—W. H. BERGTOLD, *Denver, Colo.*

[NOTE.—It gives us pleasure to add the name of Dr. Thomas S. Roberts, of Minneapolis, to the list of authorities on local bird-life who are now contributing to 'The Season.' We hope in time to have this bi-monthly record of events in the bird world cover most of the country.—ED.]

WINTER NEIGHBORS
TREE SPARROW AND DOWNY WOODPECKER
Photographed by Verdi Burtch, Branchport, N. Y.

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Thirty-fifth Congress of the American Ornithologists' Union

The thirty-fifth Congress of the American Ornithologists' Union was held in Cambridge, Mass., Nov. 12–14, 1917. At a meeting of the Fellows of the Union, which convened at the Colonial Club on the afternoon of the 14th, Mr. P. A. Taverner was elected to fill the one vacancy existing in the class of Fellows.

On the evening of the same day, at the same place, the Fellows and Members gathered to conduct the affairs of the annual business meeting of the Union.

At this meeting, Mr. Arthur Humble Evans, of Cambridge, England, and Mr. William Lutler Sclater, of London, were elected Honorary Fellows, and Mr. F. E. Beddard, of London, a Corresponding Fellow.

The following Associates were raised to the rank of Members: Rollo H. Beck, foremost collector of marine birds, leader of the Brewster-Sanford expedition to the coasts of southern South America; Winthrop S. Brooks, who has conducted important ornithological explorations for the Museum of Comparative Zoölogy; James P. Chapin, who for six years represented the American Museum in the upper Congo region of Africa; Francis H. Harper, now with the Biological Survey, who has investigated the bird-life of the great Slave Lake region for the Canadian Government; and Dr. Winsor M. Tyler, a leading authority on New England bird-life.

There were also elected 112 Associate Members.

The public sessions of the Union, for the presentation and discussion of scientific papers, were held at the museum of Comparative Zoölogy November 13–15.

Among the papers read were some of unusual interest, containing additions to our knowledge of birds as well as the country they inhabit. In addition to studies of North American birds, reports were presented on ornithological explorations in the West Indies, Nicaragua, Costa Rica, British Guiana, Peru, the coast of southern South America, and China and Africa.

The Union was entertained daily at luncheon by the Nuttall Club of Cambridge, and an evening at the Boston Society of Natural History and the annual subscription dinner gave additional opportunities for the social intercourse which always forms such a delightful and also important part of an A. O. U. Congress.

PROGRAM

In Memoriam—Edgar Alexander Mearns. Dr. Charles W. Richmond, Washington, D. C.

Cape May, New Jersey, and its Bird-life. Dr. Witmer Stone, Philadelphia, Pa.

A Purple Martin-roost in the City of Washington. Harry C. Oberholser, Washington, D. C.

Demonstration of a Feeding-slab. William E. Saunders, London, Ont.

Notes on Guiana Birds. C. William Beebe, New York City. Illustrated with slides.

The *Limicolæ* of the State of Washington. J. Hooper Bowles, Tacoma, Wash.

Birds on Turrialba. Illustrated by lantern-slides. Charles H. Rogers, New York City.

The Present Status of our Black-capped Petrel. With exhibition of skins and lantern-slides. G. Kingsley Noble, Cambridge, Mass.

A Four-months' Collecting Trip in Nicaragua. W. DeWitt Miller, New York City.

In Audubon's Labrador. Illustrated by lantern-slides. Dr. Charles W. Townsend, Boston, Mass.

Notes on the Breeding Warblers of Central New York. Illustrated by lantern-slides. Prof. Arthur A. Allen, Ithaca, N. Y.

The Discovery of the Breeding-ground of the Large-billed Sparrow, and its Consequences. Harry C. Oberholser, Washington, D. C.

'Sight Records'—a Problem of Present-day Ornithology. Dr. Witmer Stone. Philadelphia, Pa.

Ornithological Work in 1917. Discussion by the members.

Ferruginous Stains on Water-fowl. Frederic H. Kennard, Newton Centre, Mass.

The Span of Life and Period of Activity of Ornithologists. Dr. T. S. Palmer, Washington, D. C.

Notes on Shore-bird Migration. John Treadwell Nichols, New York City.

A Review of the Work of the Asiatic Zoölogical Expedition of the American Museum of Natural History. Illustrated by lantern-slides. Roy C. Andrews, New York City.

An Ornithological Journey from the Tableland to the Tropics in Peru. Illustrated by lantern-slides. Dr. Frank M. Chapman, New York City.

The Explorations of Rollo H. Beck in South America and the West Indies for the Brewster-Sandford Collection. Illustrated by lantern-slides. Robert Cushman Murphy, Brooklyn, N. Y.

Notes on *Oceanites oceanicus*. Robert Cushman Murphy, Brooklyn. N. Y.

Vincent Barnard, an Early Pennsylvania Ornithologist. Dr. Witmer Stone, Philadelphia, Pa.

Tail-feathers and Their Upper Coverts. Dr. Hubert Lyman Clark, Cambridge, Mass.

Two Wounded Birds. Mrs. E. O. Marshall, New Salem, Mass.

Responsive Notes of Some African Bush-Shrikes. Dr. Glover M. Allen, Boston, Mass.

The Future of the Federal Bird Reservations Illustrated by lantern-slides. Dr. George W. Field. Washington, D. C.

Additional Studies of Some Eastern Birds in Motion Pictures. Howard H. Cleaves, New Brighton, N. Y.

Exhibition of a Reel of Motion Pictures of a Loon, taken by the Hon. George D. Pratt. Robert Cushman Murphy, Brooklyn, N. Y.

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Book News and Reviews

A List of Avian Species for Which the Type Locality Is South Carolina. By Arthur Tiezevant Wayne. Contribution from Charleston Museum, III, 1917, pages 1–8.

To Mark Catesby properly belongs the title 'Father of American Ornithology.' He was the first naturalist to write a formal treatise on the birds of any part of North America and his great folio volume, published in London as a part of his Natural History of Carolina, Florida, and the Bahama Islands (1731–48), was a remarkable production for that period.

Catesby, as Mr. Wayne tells us, arrived in South Carolina May 23, 1722, and passed the following year in the coast region. He then visited the upper, and as yet unsettled, parts of the state. Of the seventy-six birds which Mr. Wayne here includes as having been described from South Carolina, no less than fifty-seven were first formally presented to the world by Catesby.

Among these are the Wood Duck, Bob-white, Passenger Pigeon, Carolina Paroquet, Kingfisher, Ruby-throated Hummingbird, and others now so widely known that it carries the mind far back in the history of our country to think of a time when knowledge of their existence was not common property.

Obviously, many of the birds which Catesby described and figured (for example, the Paroquet and Passenger Pigeon) were familiar to the early settlers, not to mention the aboriginal inhabitants of the country in which they lived.

If by the discovery, then, we should mean when a certain animal first attracted the attention of man, we would never be able to name the actual date of discovery of most of our larger and more conspicuous or economically valuable forms of life.

To the ornithological mind, however, it is enough to know when a species of bird first came to the notice of a person sufficiently interested to publish his observations concerning it.

In this sense Catesby may be called the real discoverer of most of the birds he describes. Points of view are comparative, and, landing in a new world, he naturally expected to see new sights and new forms of life. No other ornithologist alas! will ever explore so virgin a field as South Carolina was to Catesby in 1722.

We are grateful to Mr. Wayne for a brochure, which aside from its technical value, makes a strong appeal to the imagination through the emphasis it places on the results of Catesby's labors.—F. M. C.

Our Back-door Neighbors. By Frank C. Pellett. The Abington Press, New York and Cincinnati. 12mo. 209 pages; numerous half-tones from photographs. Price, $1.50.

Mr. Pellett is evidently a born naturalist with a keen and loving interest in the various forms of life which live about him, whether bird, mammal, or insect. He writes of Hawks, Owls, and Crows, bees, turtles, rabbits, skunks, and caterpillars with equal enthusiasm, adding to our knowledge of their habits and increasing our interest in them.

Mr. Pellett's style is pleasing, unaffected, and sympathetic. His photographs illustrate his text and both are well designed to arouse us to the world which lies at our back door.—F. M. C.

Ornithological Magazines

The Auk.—The October issue closes the thirty-fourth year of the magazine and finds it even more vigorous than in its earlier days. It opens with 'A Study of Subsequent Nestings after the Loss of the First' by H. Mousley, who throws some light on a subject to which a host of egg-collectors might well devote attention. Some excellent half-tones of sets of Warblers' eggs accompany the article. The 'Nesting of the Cape May Warbler at Lake Edward, Quebec, is recorded by H. F. Merriam.

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Alaska receives some attention at the hands of C. A. Gianini under title 'Some Alaska Peninsula Bird Notes' and of G. D. Hanna under title 'The Summer Birds of the St. Matthew Island Bird Reservation.'

The status of *Larus thayeri*, Thayer's Gull,' is discussed by J. Dwight, and a plate of wing-tips is shown.

'Notes on Long Island (N. Y.) Birds,' by J. T. Nichols, R. C. Murphy and L. Griscom, is of considerable local interest, and on similar lines may be cited 'Remarks on Colorado Birds' by W. P. Lowe; 'Further Notes on Alabama Birds' by L. S. Golsan and E. G. Holt, 'Ontario Bird-Notes' by H. Lloyd, and 'Some Notes on Connecticut Birds' by I. N. Gabrielson, all of these articles containing more items of value than their titles indicate. 'Notes on the Kennicott's Screech Owl (*Otus asio kennicotti*) in the Puget Sound Region,' by J. H. Bowles, is a contribution to the life-history of this bird.

A paper on a new topic, 'The Shedding of the Stomach Lining by Birds, Particularly as Exemplified by the Anatidæ' is the result of some careful work by W. L. McAtee in a field of research that promises more in the future. That extensive desquamation should take place in gizzards, the food-grinding organs of birds, is not surprising, but the writer's observations, illustrated with half-tones, present the subject in a new light.

'Notes on North American Birds, III' and 'Notes on the Genus *Puffinus* Brisson,' by H. C. Oberholser, are purely technical.

'Personalia in Ornithology—Report of the Committee on Biography and Bibliography,' by T. S. Palmer, outlines work that may be accomplished through coöperation along these lines.

'The Niche Relationships of the California Thrasher' is discussed by J. Grinnell in language that at times may be understood only by the elect, but we read that "These various circumstances, which emphazise dependence upon cover and adaptation in physical structure and temperament thereto, go to demonstrate the nature of the ultimate associational niche, occupied by the California Thrasher."

In binding the numbers of this volume, we must not forget to place the 'List of Members,' now located in the April issue, where it belongs.—J. D.

THE CONDOR.—The contents of 'The Condor' for September, 1917, include five general articles, one each on the birds of Colorado, Southern California, and Texas, one historical, and one containing a description of a new subspecies. Bradbury's 'Notes on the Nesting Habits of the Clarke Nutcracker in Colorado' are based on observations made by H. H. Sheldon in Saguache County in March and April, 1916, and are illustrated by four half-tones. 'Red Letter Days in Southern California,' by Mrs. Bailey, is an account of the birds, mainly Ibises, Herons, Avocets, Stilts, Yellow-legs, Gadwalls and Cinnamon Teal at Lake Elsinore and San Jacinto Lake in August, 1907. 'Some Birds of the Davis Mountains, Texas,' by A. P. Smith, contains notes on 45 of the hundred or more species observed during a six weeks' trip in September and October, 1916. Many of these birds are species of wide range in the Southwest, and some are more or less common in certain parts of California.

A brief account of 'Botta's Visit to California' in 1827–28 is given by Palmer, with the dates at which the various places were visited and the localities where the types of the Roadrunner and Anna's Hummingbird were probably collected. Under the name *Passerella iliaca monoensis* Grinnell and Storer have described 'A New Race of Fox Sparrow, from the Vicinity of Mono Lake, California.' This new Fox Sparrow "adds another race to the assemblage of pale-colored forms breeding in the western United States."

Among the short notes is an account by Tyler of the discovery on May 25, 1917, of the nest of Wilson's Phalarope, 12 miles southwest of Fresno. This note is especially interesting as it is the southernmost breeding record of this bird in California. —T. S. P.

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Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

BEYOND question the most valuable and useful information which BIRD-LORE has ever been privileged to present to its readers is the series of papers on bird-migration contributed by the late Wells W. Cooke.

Based upon the hundreds of thousands of records made by volunteer observers throughout the country for the Biological Survey, these papers, in most instances, are essentially complete outlines of the routes and times of migration in North America of a large proportion of our passerine birds.

From them we may learn when to look for the birds in the spring, how long they will remain with us, and when the fall migrants and winter visitants will come in the autumn; and all this, not at one locality, but at a selected list of localities covering the birds' North American range.

These papers, therefore, tell us not only when a certain bird should reach our own vicinity, but give, as it were, a time-table of its journey, which enables us to determine its rate of speed. Surely no information could be of greater practical value to the field-student who would be on the alert to see every bird which visits his region than that which is contained in this unequaled series of papers.

For this reason we announce, with unusual satisfaction, that through the courtesy of Mr. E. W. Nelson, Chief of the Biological Survey, Dr. Harry C. Oberholser, who is continuing the studies of bird-migration begun by the late Professor Cooke, will also continue the series of papers in BIRD-LORE interrupted by Professor Cooke's sad and untimely death.

The first paper in this second series appears in this number. It treats of the five species of Swallows figured in our frontispiece. We plan later to present the migration dates of the Martin and Barn Swallow figured in BIRD-LORE for September–October, in order that the migration records of all our species of the highly migratory, widely distributed, and easily observed birds of this family may be complete.

To this important announcement we add only the assurance that the contents of the twentieth volume of BIRD-LORE will depend closely upon the support which is accorded it. To the serial papers on migration, plumages, and season, and the standing departments, we hope to be in position to print all the interesting articles and notes contributed by our readers—contributions which have increased in number and value as the number and experience of our readers has grown.

REFERENCE to the frontispiece of this number should not be made without calling especial attention to it as, in our opinion, one of the most convincing expressions of Mr. Fuertes' rare gifts with which we are familiar. We do not refer to the accuracy of detail and color, which we expect in Fuertes' drawings, but to the exceptional success which has here attended his effort to portray Swallow character. Not only is each bird in the plate a Swallow in every outward essential, but also in those intangible qualities, so difficult to describe and still so obvious to the experienced, observant bird-student. Furthermore, the young Swallows, although they are fully feathered, have an unmistakably immature look, and finally, the birds are so skilfully grouped that the six figures do not appear to be unduly crowded. One rarely sees a more attractive bird plate.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

A CHRISTMAS GREETING

"Thoughts of peace and not of evil."—Jer. 29:11

". . . Joy and gladness, and cheerful feasts; therefore love the truth and peace." —Zach. 8:19.

MAKING THE WORLD SAFE

Everywhere the word has gone forth that the world must be made a safer place to live in. This dictum is just as applicable to bird-life as to human life, if one stops to consider the consequences of existence in an unsafe world. How extremely dangerous a place for birds this country of ours has been for many years is indicated by the enormous annual toll wantonly taken of bird-life. Conditions have been quite as bad, and worse, in most other countries. Let us be awake now to the possibilities of educating public sentiment to a realization of what general good may accrue to all by safeguarding our birds.

It is earnestly hoped that Audubon Societies will make a particular effort to do three things now in order to advance, rather than retard, such wise measures of legislation as have already been passed in the interest of conserving bird-life and other resources:

1. Arrange some form of instruction whereby not only citizens but also students of every grade may be made acquainted with the general aim of the game-laws of the states in which they reside, emphasizing the basis of such laws and calling attention particularly to those species of birds which are in greatest danger of extermination.

2. Set about a quiet but convincing campaign to bring women to understand that the use of prohibited plumage on hats is just as criminal as many offenses which they would not hesitate to condemn. That wings, aigrettes, and even entire birds are still too frequently seen on women's hats is sufficient reason for undertaking such a campaign. In the October, 1917, number of the *American Museum Journal*, a most instructive article on Ostrich farming explains the situation of legitimate feather industry clearly and without prejudice. A wider distribution of this article is much to be desired.

3. Take up lines of work which will correlate food-conservation with bird- and nature-study. It is not well to sit back with folded hands and free conscience, thinking that everyone is informed about food-conservation. People need constant assistance and instruction in this matter. At the moment of writing, sugar is scarcely to be had, and many people are not only inconve-

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nienced but troubled to know how to adjust their food-habits to such a shortage, which, though temporary, still has to be met wisely while it lasts. If Audubon Societies at this juncture were prepared to demonstrate the value of such a natural product as bees' honey, for instance, accompanying the demonstration with correlated talks on the vegetation which furnishes a food-supply to bees and is protected from insect depredations by birds, and also methods of bee-keeping, it would be a timely aid in a national emergency. Make the year that is to come one of very real value along educational lines.—A. H. W.

THE HARVEST

"Oh, 'tis sweet, when fields are ringing
With the merry crickets' singing,
Oft to mark with curious eye
If the vine-tree's time be nigh:
Here is now the fruit whose birth
Cost a throe to Mother Earth.
Sweet it is, too, to be telling,
How the luscious figs are swelling:
Then to riot without measure
In the rich, nectareous treasure,
While our grateful voices chime,—.
Happy season! blessed time."

—From *The Peace*, by Aristophanes,
(who lived about 450–380 B.C.)

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXVI: Correlated with History, Nature-Study and Observation

CHRISTMAS IN 1917

While all the world strives daily to contrive some better way to live, some new device to save the precious resources upon which life depends, and to discover some means of knowledge of useful arts now unpractised by men, whereby the conditions of all may be uplifted, Christmas draws near, bringing a sadder yet more hopeful message than ever before in your lifetime or mine. This will be an anxious holiday season in many homes throughout the land, where empty places may not soon be filled by accustomed cheery faces. It will be a holiday season of *hope everywhere*, for those whose faith in happier days and nobler things is strong and serene.

It is well in all this tumult of strife and disaster to think calmly and to open the mind to new ideals of daily living.

There have been other times when the world was in commotion and people

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were reaching out and up toward something higher. Aristophanes, a Greek poet who lived four centuries before Christ, pictures in lines of beautiful though quaint conceit, the world of his day, which was struggling for purer ideals of democracy. In Athens, where he lived, law and order not infrequently were upset by headstrong, ambitious men or enemies of a free government. Perhaps to point the way to a higher conception of the state, Aristophanes wrote a merry play entitled "The Birds," in which two citizens of Athens, by name Peisthetairus and Euelpides, engage the birds to build a new city in mid-air, called 'Cloud-Cuckoo-borough,' which shall enjoy the benefits of nearness to the gods and at the same time cut off quarreling communities below from those privileges which belong to those who observe order and right living.

This new city is described by the messenger who comes down to announce its completion to Peisthetairus as "a most amazing, astonishing work," with its surrounding wall so broad that two four-in-hand chariots might with ease be driven abreast upon it.

Peisthetairus exclaims: "You surprise me," and the narrative continues as follows:

MESS. And the height (for I made the measurement myself)
Is exactly a hundred fathoms.
PEIS. Heaven and earth!
MESS. How could it be? such a mass! who could have built it?
The Birds; no creature else, no foreigners,
Egyptians brick-layers, workmen or masons,
But they themselves, alone, by their own efforts,—
(Even to my surprise, as an eye-witness)
The Birds, I say, completed everything:
There came a body of thirty thousand cranes,
(I won't be positive, there might be more)
With stones from Africa in their craws and gizzards,
Which the stone-curlews and stone-chatterers
Worked into shape and finished. The sand-martens
And mud-larks, too, were busy in their department,
Mixing the mortar, while the water-birds,
As fast as it was wanted, brought the water
To temper and work it.
PEIS. (*In a fidget.*) But who served the masons?
Whom did you get to carry it?
MESS. To carry it?
Of course, the carrion crows and carrying pigeons.
PEIS. (*In a fuss, which he endeavors to conceal.*)
Yes! yes! but after all, to load your hods,
How did you manage that?
MESS. Oh, capitally,
I promise you. There were the geese, all barefoot
Trampling the mortar, and when all was ready
They handed it into the hods, so cleverly,
With their flat feet.

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PEIS. (A bad joke as a vent for irritation.) They footed it, you mean—
Come; it is handily done though, I confess.
MESS. Indeed, I assure you it was a sight to see them;
And trains of ducks there were clambering the ladders
With their duck legs, like bricklayers' 'prentices,
All dapper and handy, with their little trowels.
PEIS. In fact, then, it's no use engaging foreigners;
Mere folly and waste, we've all within ourselves.
Ah, well now, come! But about the woodwork? Heh!
Who were the carpenters? Answer me that!
MESS. The woodpeckers, of course: and there they were,
Laboring upon the gates, driving and banging,
With their hard hatchet beaks, and such a din,
Such a clatter as they made, hammering and hacking,
In a perpetual peal, pelting away
Like shipwrights, hard at work in the arsenal,
And now their work is finished, gates and all,
Staples and bolts, and bars and everything;
The sentries at their posts; patrols appointed;
The watchman in the barbican; the beacons
Ready prepared for lighting; all their signals
Arranged— . . ."

—(Frere's Translation)

From this aërial city constructed by the birds, the poet skilfully paints things as he wishes they might be in his beloved Athens, showing for all time to come the strength and beauty of an ideal commonwealth.

Christmastide is the symbol to us of an ideal, of a brighter, better time. Our own part in bringing this ideal to pass we sometimes overlook, in our expectancy for gifts and good wishes. This season, let us put aside the desire for many gifts, being content with good wishes and the opportunity to make gifts to others in less favored lands, where there can be no old-time Christmas until peace returns. If we are doubtful as to what we can do to make the Christmas season a welcome one, let us turn to very practical ways of making it a time of cheer. Three things everyone can do with little effort:

1. Show people, especially sick and shut-in people, how to keep lunch-counters for birds about their homes.

2. Send cards or letters with a message of cheer from the birds to those who are sick in hospitals, or cut off from the life of towns and villages in asylums, or to those refugees and destitute ones abroad, who live in fear and silence, deprived of home and friends.

3. Study daily to improve your powers of observation, your knowledge of nature, and the benefits you may enjoy with others by conserving bird-life and all other natural resources.

A very practical suggestion for right living and the improvement of natural resources was made by a Greek named Athenæus, who lived about a century later than the poet Aristophanes. In discussing the subject of 'How to Pre-

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serve the Health,' Athenæus said that honey was a pure food of great value, and that those who eat bread and honey for breakfast "were free from disease all their life," and, morever, were very long-lived. He referred, of course, to bees' honey, a resource which we use but sparingly, owing to our lack of interest in learning how to keep bees. A study of the vegetation about us, with a few demonstrations about the proper care of a hive of bees, would put within the means of many a family a delicious and nourishing food. Let us study this subject during the winter, along with our study of birds, and next spring add a window-hive of bees to the school-room, as a means of becoming familiar with one of the most interesting and remarkable life-histories in Nature. Make this Christmas a time of new ideals, new hopes, and new enterprises.—A. H. W.

"Let us look on the tree-clad mountain-crest,
On the sacred earth where the fruits rejoice,
On the waters that murmur east and west,
On the tumbling sea with his moaning voice.
. . . . . .
And the gifts of the gods that know not stain,
And a people of mortals that know not fear.
—From *The Clouds*, by Aristophanes.
(Andrew Lang's Translation)

SUGGESTIVE QUESTIONS

Where do figs grow? What is a *nectareous* treasure?

What is the meaning of "to mark with curious eye?"

Can you think of the reason that a Greek poet should refer to *Egyptian* brick-layers? How were brick made by the Egyptians?

What fabled belief is alluded to in the line describing cranes "With stones from Africa in their craws and gizzards?"

Where are Stone-Curlews found? Stone-Chatterers? Why are they so called? Why *Sand*-Martins and *Mud*-Larks?

Is the poet's description of the habits of Woodpeckers correct?

What kind of observation did this poet have?

What is a barbican?

What do you know about the habits of bees? about bee-keeping?

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FOR AND FROM ADULT AND YOUNG OBSERVERS

BOBBIE IN BIRDLAND

A BIRD MASQUE IN TWO ACTS

By ELLA FLORENCE PADON

Time: Present

CAST OF CHARACTERS

BOBBIE	A schoolboy
ARTHUR	Friend of Bobbie
KING EAGLE	Birds
POLLY PARROT	
OWL	
BLUE JAY	
THRUSH	
JENNY WREN	
ROBIN REDBREAST	
DOVE	
WOODPECKER	
MARTIN	
HUMMINGBIRD	
BLACKBIRD	
RAVEN	
LARK	
REDBIRDS	
BLACKBIRDS	
ORIOLES	

Costumes: Bobbie and Arthur, modern. The rest resembling birds. Elizabeth Gorden's 'Bird Children' recommended.

ACT I

SCENE 1. Forest. A pile of logs arranged like a throne at stage L. Enter birds, singing and dancing gayly, waving arms above head as if flying.

Air to Humoresque.—Dvorak.

1 We come, we come, from forest here, from fields and meadow far and near,
We come, we come with hearts so gay,
We have heard the Eagle's call, and hasten hither, one and all,
To welcome him, our king to-day.

Chorus.

Hear, O hear our happy song, singing, singing all day long,
Singing, singing, singing all day long,
Hear, O hear our happy song, singing, singing all day long,
Singing, singing, singing, singing all day long.

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2 We are so happy blithe and gay, so busy, busy all the day
From early Spring till time to fly away,
Mating, nesting, then at last the little birds come so fast,
We have to search for food alway.

Chorus.

3 At peep of dawn we ope our eyes and spread our wings and mount the skies,
And view the earth so far below,
Then down we come so hastily, to catch the early worm you see
And O, what bliss you do not know.

Chorus.

4 The woods are full of lovely things, limpid pools and bubbling springs
While babbling brooks go rushing by,
Shady dells and blossoms sweet and bright red berries ripe to eat
And O, such wonders round us lie.

Chorus.

5 Merrily, right merrily, we flit about from tree to tree,
Pouring forth our happy strain,
Till man comes, and just for fun, he robs our nests, and fires his gun,
And turns our joy to grief and pain.

Chorus.

(*A gun is fired, and birds fly away.*)

(Enter Bobbie, gun in hand, steps about cautiously, peering up into tree. Lifts gun, aims. Enter Arthur with camera in hand.)

ARTHUR.—Hello, Bobbie, that you? What are you doing out here? Stop! Bobbie, don't! (Hurries forward with hand outstretched entreatingly.)

BOBBIE (lowers gun, looking around impatiently).—There, you scared him away! A Bluebird, too. There he goes, now! (Lifts gun, takes aim. Arthur seizes his arm.)

ARTHUR.—For shame, Bobbie; you wouldn't kill a Bluebird, would you?

BOBBIE (surprised).—Why sure! Why not? What are birds for, if not to kill! Me and Jimmy Bean are trying to see which can kill the most. He's ahead now, but I'll have him beat all hollow before night.

ARTHUR.—Why, Bobbie, don't you know it is a shame and a disgrace to kill birds nowadays?

BOBBIE (scornfully).—Aw, go long! What you talking about? They aren't anything but birds. Why what are birds, anyway? They're nothing but just—just—just—birds. That's all birds are.

ARTHUR.—That's because you don't know them. See what I've got?

BOBBIE (examining camera curiously).—Why it's a camera, isn't it? What are you doing out here in the woods with a camera?

ARTHUR.—Taking the birds' pictures.

BOBBIE.—Taking the birds' pictures! Oh, my! (Goes off into a fit of laughter.)

ARTHUR.—Certainly! Making a study of the birds. You don't know how interesting it is. I have taken over thirty different kinds of birds in this very woods. You know I belong to the Audubon Society, and we are learning all about their ways and their habits, taking their pictures, and getting acquainted with them; and that's a great deal nicer than just killing them—don't you think so?

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BOBBIE.—No, I'd rather go hunting. And when you go hunting you have to kill things. And all the men my age hunt (strikes his chest proudly).

ARTHUR.—No, they don't. That's where you are way off. Some do yet, maybe, but men hunt mostly with the camera nowadays. You come and join our Audubon Society, and you'll learn more interesting things about birds than you ever dreamed of.

BOBBIE.—No, I'm not going to join any Audubon Society. I'm no sissy. I'm going to hunt like the *men*.

ARTHUR.—All right, Bobbie. You go on and kill the birds if you want to. But—every time you kill a bird, remember (holds up finger warningly) you are breaking up some happy little family and bringing woe and misery among the most joyous little creatures in the world. And what's more, just put yourself in their place, and think how

you would like it yourself, if you were to have some one firing a gun at you, everywhere you went. And how would you like to have your nice little home torn to pieces, your father and mother and all your family killed before your very eyes?

BOBBIE.—Pooh! They don't care. Birds haven't any feelings. Birds don't know anything. Birds haven't any sense.

ARTHUR.—Oh, they haven't, have they! Well you should have been with me this morning and watched them building their nests, and feeding their little ones, and seen all their skilful ways, their clever devices, and their wise and sensible methods of doing things. You'd be surprised. In fact, if you only knew how much like folks they really were, you'd never want to kill another bird as long as you lived. Besides, we ought to feel grateful to them for all they do for us.

BOBBIE.—For what they do for us! Why, what do you mean?

ARTHUR.—Sure! Don't you know they eat up all the worms and insects that destroy our crops? I just don't know what we would do without them. Reckon we'd starve to death, with everything eaten up by the bugs. Oh, we'd be in a pretty fix, we would! So you see, Bobbie, you are killing off our best friends when you kill the birds. Come now, promise me you won't kill any more. Won't you?

BOBBIE (doubtfully).—I—I—don't know (frowns, shakes head). You see, Jimmie Bean and me——

ARTHUR (impatiently).—All right! Go on killing the birds if you want to, but every

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time you do, just remember what I have told you. Well, I must be going now (turns away). Sorry I can't say 'good luck' to you. But—so long (walks off).

BOBBIE (stands looking thoughtfully—frowns).—Pooh! I don't believe it. All fool talk. Guess I can kill birds if I want to. And I do! There goes one now—a Redbird (lifts gun, aims, lowers it, and lifts it again—lowers it—lifts it again, lets it slowly drop). I-I-c-c-can't. What's the matter with me anyway? (Rubs eyes with fist.) What did he tell me all that for any way? 'Tisn't so! I know it isn't. Birds haven't any feelings, of course they haven't. Don't I know? I'll try again. There goes a Woodpecker! I'll get him. (Lifts gun, lowers it, someone behind scene sings Nevin's Woodpecker song, suddenly grins.) It got away! Good enough! Glad it did! I'd get away, too, if I were a bird. I wouldn't want to be shot. No siree Bob! If I was a bird—well I don't know what I would do if I was a bird—having folks kill me like that (throws gun upon the ground indignantly). Don't believe I feel like killing any more birds to-day. Sort of tired: believe I'll lie down and rest awhile (thrusts hands in pockets and walks slowly away).

End of Act I.

ACT II

SCENE I. Same as Act I.

(Enter Eagle, accompanied by Blue Jay and Owl)

EAGLE (sternly looking around).—Where are the birds?

JAY.—They were here, Your Majesty, but a moment ago. I sent the message throughout Birdland calling all the birds to council. They came, but a wicked boy by the name of Bobbie appeared among them and fired his gun, whereupon they flew away. But they will return presently. (Spies gun upon the ground, stoops to pick it up and hands it to Eagle.) Behold, Your Majesty, a gun, the foul and wicked instrument for our destruction. The culprit must be near.

EAGLE.—'Tis well. Go and find the wretch, and bring him hither. It is the year, the night, the very hour, which gives mystic power over our enemy. He has fallen under the spell. 'Tis well. (Mounts throne, sits down. Enter birds, singing, waving wings.)

BIRDS (singing).—

Tune, 'Welcome Song' from Ira B. Wilson.

Welcome to our King to-day!
From mountain crags and far away,
He has come to counsel us,
To counsel and advise.
He is noble, fierce, and brave;
He swoops down from the skies,
Behold his mighty wings and claws,—
His flashing eyes!
Welcome, welcome, then,
Our mighty King so true.
Lord of air and sea and sky,
We welcome you.

EAGLE (addresses birds).—I have come, O birds of the forest, to preside over your council of war to-day—war against our enemy, man. Although I dwell apart, far from the haunts of men, among the rocks and distant mountain peaks, yet I know full well the measure of your wrongs. I know what benefits you have bestowed upon them. How you feed upon the worms and insects that destroy their crops whereby they live. All too trustingly you have built your nests about their homes and brightened their existence with your songs. And what has been the reward? They have slain and

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killed us without pity and without mercy. They have robbed our nests and shut us up in cages, stripped us of our feathers and now strut about in our borrowed plumage. They have even invaded our own dominion of the air and fancy they can fly, these insignificant creatures, born only to creep and crawl upon the earth. Shall we submit to such infamy? Shall we not put a stop to such invasion of our rights? What says the Owl, wisest of the birds? (Turns to Owl.)

OWL.—To-whit, to-whoo! To-whit, to-whoo! To-whit, to-whoo!

WREN (running up to throne).—What did he say?

EAGLE.—Silence! He is speaking words of wisdom.

WREN.—But what does it mean?

EAGLE.—Never mind. 'Tis too deep for you to understand.

WREN.—Pooh! I don't believe it means anything. (Flirts back to place.)

EAGLE.—Your words, Sir Owl, are wise and show great knowledge and wisdom. But perhaps it would be well to hold a council with your brother Owls. Call them hither.

OWL (bows, turns to stage R, calls loudly).—To-whit, to-whoo; to-whit, to-whoo; to-whit, to-whoo; to-whit, to-whoo.

ECHO (from distance).—To-whit, to-whoo; to-whit, to-whoo; to-whit, to-whoo.

OWL.—To-whit, to-whoo; to-whit, to-whoo; to-whit, to-whoo. (Enter stage to R, 10 to 20 Owls, march stiff and solemn down middle of stage, separate, half to right and half to left, round stage, meet at center back, advance to front of stage in row.)

BIRDS (*sing to air of 'The Owl,' by Granville Bantock.*)—

1 They come, they come, the Owls so wise,
So sad and solemn, too.
They come to counsel and advise
And tell us what to do.
To-whit, to-whoo; to-whit, to-whoo; and tell us what to do.
To-whit, to-whoo; to-whit, to-whoo; and tell us what to do.

2 They sit and think, and nod and wink,
The night and all day through.
So deep their thoughts they can't express
Such words of wisdom true.
To-whit, to-whoo; to-whit, to-whoo; and tell us what to do.
To-whit, to-whoo; to-whit, to-whoo; and tell us what to do.

3 They look so wise, such great big eyes,
And such a stately tread.
They must know all there is to know,
With such enormous head.
To-whit, to-whoo; to-whit, to-whoo; and tell us what to do.
To-whit, to-whoo; to-whit, to-whoo; and tell us what to do.

OWLS (gather in circle at center of stage, chanting dirgelike refrain).—To-whit, to-whoo; to-whit, to-whoo. (Put heads together, as in conference, chanting.) To-whit, to-whoo; to-whit, to-whoo. (March around the stage several times, still chanting. Exit Stage L.)

BIRDS (exclaim in wonder).—What wisdom! What knowledge! Oh! Oh! Oh!

WREN (running about the stage frantically).—O dear! O dear! I didn't understand a single word they said.

EAGLE (sternly).—Back to your place, foolish one. Do not expose your ignorance. (Wren goes back to her place, flirting her head and shoulders in disgust).

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EAGLE.—You have heard, O birds, the judgment of the Owls. It means war, war to our enemy—man. And to this we will abide. No more will your sweet songs gladden their hearts. No more will you build your nests about their doorways. No more will you feed upon the worms and insects which destroy their crops. Their fields and orchards will soon be overrun with the bugs, the beetles, the caterpillars, and all the creeping, crawling things of the earth, till every green and living thing is eaten up. Then comes ruin and desolation over all the land, and man will *die*! Tell me, birds, is it not so?

BIRDS.—Yes! Yes! Man will die, die, die!

(Commotion at stage L.)

EAGLE.—And now, behold! he comes! The greatest of our enemies, the boy with a gun!

(Enter Blue Jay dragging Bobbie by the collar.)

BOBBIE (struggling).—Let me go! Let me go, I tell you! I want to go home. Let me go.

BLUE JAY.—No, you cannot go home (gives him shake). Behold, Your Majesty, he is here, one of our worst enemies. He has robbed more nests, stolen more eggs, killed more birds than any boy in Christendom.

BOBBIE.—No, no, that isn't so, Mr. Eagle; that isn't so. I haven't killed half as many as Jimmie Bean.

BLUE JAY.—Silence! (Hits Bobbie on the head.) Yes, Your Majesty, we have the birds here to prove it. He has been caught in the very act. Behold the gun!

BOBBIE—O, I am so sorry. I never will again. I never will, honor bright, if you'll only let me go home.

BLUE JAY.—No, wicked one, you shall stay and hear your accusers.

EAGLE (sternly).—What were you doing out here in the forest this evening?

BOBBIE.—N-n-nothing! Just taking a-a-walk.

EAGLE—What say the birds?

ROBIN.—I saw him shoot a Redbird as he was flying home with a worm in his bill to feed his little ones.

THRUSH.—And I saw him climb a tree and tear down an Oriole's nest.

MARTIN.—And I had five little birds I was teaching to fly, and he killed them all but one, and that one is lying now under the hedge with a broken wing.

BOBBIE (distressed).—Oh, dear! How dreadful! Poor little thing! Can't something be done?

MARTIN.—No, it can never fly again.

BOBBIE (horrified).—But something ought to be done. Something must be done. I tell you, let me go for the Doctor! (Eagerly.) We've got a grand one. He can do anything with bones. Let me go and—

BLUE JAY (holds him fast).—No, you don't. You stay here and hear what the birds have to say.

EAGLE.—And what says the Blackbird, the noble Blackbird? What did he see?

BLACKBIRD.—There were six of us sitting on the fence, all in a row, when he shot into our midst and I, only I, escaped.

WOODPECKER.—And I had a whole nestful of eggs, when he came and smashed them all. Oh, the wretch! I'd like to peck his eyes out, that I would.

BLUE JAY.—So would I. He deserves it! Thief! Robber!

WOODPECKER.—Come, let's give it to him!

BIRDS (gather about Bobbie and wave wings at him violently).—Che, che, che, che, che, kee, kee, kee, ka, ka, ka, ka, che, che, kee, kee, ka, ka, ka.

BOBBIE (dodging this way and that, frightened and bewildered).—Oh, dear! Oh, dear! I wish I was home! I wish I was! When will I ever see my dear parents again?

RAVEN.—Nevermore! Nevermore! Nevermore!

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BOBBIE.—What! nevermore! O, you horrid bird! Never see my dear parents again! Boo-oo-oo! (sobs.)

(Enter Poll Parrot.)

POLLY (frisking about among the birds).—Pretty Polly! Pretty Polly! Want a cracker! cracker! Want a cracker! cracker!

BOBBIE (surprised).—Why, Polly! How did you get out here? I thought you—

POLLY.—Hello, Bobbie! You out here, too? Why, I came out here to get away from you. You are so mean to me. I have come out here to live with the birds and be a real bird again (frisks about among the birds). Pretty Polly! Pretty Polly! Pretty Polly!

WREN.—Go 'way! Go 'way! (Shooing Polly away.) You don't belong to us. You belong to humans.

POLLY.—No, I don't any more. I've had enough of humans. That Bobbie there—

BOBBIE.—O, hush, Polly, don't tell them any more. They're down on me now. I'm in an awful fix, Polly; do come and help me out. I'll be good to you always, Polly, if you will. Pretty Polly, O pretty, pretty, Polly!

POLLY.—You pulled out all my tail-feathers!

BOBBIE.—Forgive me, Polly! I'm awful sorry, indeed I am.

POLLY.—You threw me into the rain-barrel.

BOBBIE.—I didn't mean to. Polly, indeed I didn't. I won't do it again, sure I won't. But don't let's talk about that now. Come, let's go home. You don't belong out here, you know you don't. You're not a regular bird anyway. You are just a sort of betwixt and between.

POLLY.—No I am not! I am a bird, a real bird, I'll have you to understand. I am-I am-I am! Pretty Polly! Pretty Polly! (Frisks about among the birds.)

BIRDS (drawing away).—Go 'way—go 'way—go 'way. Che-che-che-che-kee-kee-kee-ka-ka-ka. Che-che-che-kee-kee-kee-ka-ka-ka.

POLLY (goes up to the Eagle).—Pretty Polly. Pretty Polly! Want a head scratched (ducks head).

EAGLE. Begone, infamous bird! We do not want you here with your foolish human chatter (strikes Polly on the head with wand).

BOBBIE.—There, Polly, you see, you talk too much. I always said you did. But you come here, and I'll be your friend, and always will be after this. Come Polly, pretty Polly! Pretty, pretty Polly! That's right! I'll scratch your head for you. (Polly ducks head, Bobbie scratches.)

BIRDS (angrily).—Look! Look! Let's peck them! Scratch their eyes out! Che, che, che, che.

(Birds cluster about Bobbie, waving wings furiously.)

EAGLE (rising, waves wand).—Do your duty birds! So let him perish, the enemy to our kind.

(Stage scene of wild confusion. Birds chase Bobbie and Polly around the stage.)

POLLY (screaming loud above the rest).—Cracker! Cracker! Want a cracker! Want a cracker! Cracker!

BOBBIE.—Oh, hush up, Polly! Don't talk about crackers now! Let's get out of this!

(Enter Dove at Stage L. Birds stop fighting, fall back to right and left. Dove advances, holding up an olive branch in hand high over head.)

DOVE (*Sings to air of 'Waltz Song' from 'Pink Lady'—McClellan and Caryll*).—

Peace, peace, peace to you,
Birds of the forest, peace.
Let this strife and contention
Among you cease.

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From the children of men, I bring tidings today,
Harken now, to me, I pray,
'Tis a message of love and
A promise true—
They will harm us no more
And protect us, too.
So rejoice and be gay,
Throw all anger away.
Come, come, come, let us dwell now
In peace alway.

Peace, peace, peace to the birds of the forest here,
Peace, peace, peace to the human kind far and near,
And may the dark clouds of war hanging low,
Vanish soon, forever away.
List, list, list to the message of peace I bear.
Let all hearts join together in this my prayer,
O, cŏme, Spirit of love
Down from the Father of Love
Bring peace, peace to the heart
Of the world today.

EAGLE.—Who is it that talks of peace now? We have come to talk of war—war against our enemy, man.

DOVE (addressing throne).—'Tis I, Your Majesty, the Dove of Peace. I have come with a message from the children of men, bearing in my hand the olive branch of peace. I have come to tell you that they are no longer enemies, but our friends. A new spirit has been born into the hearts of men. A spirit of love and kindness to all living things, such as has never been known before. They offer us now their friendship. Shall we not accept?

EAGLE.—Friendship! Friendship, indeed! Behold, here (pointing to Bobbie), a human, caught this very day in the act of killing the birds in the most heartless manner.

BOBBIE.—Oh, please, Mr. Eagle, I never will again! You see I didn't know you were so much like humans; I didn't, honor bright! I never thought about it. But now I wouldn't kill a bird for anything. Sure, I wouldn't.

DOVE.—You see, Bobbie did not know, that was all. He was just a little behind the times. He had not heard about the great peace movement between man and the birds. For man is waking up. He is learning more about us every day. They are taking notes, these humans, studying about us in their schools and colleges, passing laws, and forming great societies for our protection. Sanctuaries are being set apart where we can live in peace and security, without fear of dogs and cats, or the wild creatures of the woods. And beautiful bird-houses are being built, and fountains provided, and food put out for our own particular use. Tell me birds, is it not so?

ROBIN.—Yes, yes! That is so. Where I live, the people are very kind. They throw out whole basketfuls of crumbs every day. And they hang up lovely big chunks of suet all winter, so we can have plenty to eat.

MARTIN.—And they have built the finest bird-houses at our place, regular apartment houses, lots of rooms, with all the modern improvements.

THRUSH.—And they have planted all kinds of berries we like at our place, and talk to us real friendly, as if they liked us.

BOBBIE.—Of course they do! And so do I, now I know you. And when I go back, I'm going to be your friend. I'm going to join that Bird Club, and get all the boys I can to join. And I'll never kill another bird, never, never any more.

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RAVEN.—Nevermore! Nevermore! Nevermore!

BOBBIE.—Yes, that's right, Mr. Raven, never, nevermore!

DOVE.—And so, Your Majesty, you see, the birds make common cause with man. It is peace, good-will between us.

EAGLE (haughtily).—Not so! Never do I enter into peace with man. Too often has he tricked, deceived, beguiled us. I trust him not. Be friends with him if you will, but as for me, I wing my flight back to the distant mountain peaks, among the rocks and crags, where the sound of gun and voice of man is never heard, there to live in peace and solitude. But, ye birds of the fields and forest, it is for you to decide for yourselves. What says the Owl, wisest of the birds?

OWL.—To-whit, to-whoo; to-whit, to-whoo; to-whit, to-whoo-oo-oo-oo!

WREN (distressed, runs out to middle of stage).—Oh, dear! O, dear! I can't understand a single word he says.

JAY.—Be still, foolish one!

WREN (saucily).—I don't care. I want to know. Che, che, che, che. (Jay forces Wren back to place.)

BOBBIE.—O, I'll tell you what he says. I understand him perfectly. He says, "Bobbie is all right! Bobbie is your friend. You let Bobbie go, and he will prove his friendship always."

ROBIN.—Yes, of course. Just what I thought. I understood him all the time.

MARTIN.—So did I.

BIRDS.—So did I! So did I! So did I!

DOVE (bowing before throne).—You see, Your Majesty, the birds are all for peace. They entreat you, everyone. Behold the Bluebirds, they come to plead for peace.

(Enter from 10 to 20 Bluebirds in drill, or dance, before throne.)

DOVE.—Behold the Redbirds; they, too, ask for peace.

(Enter from 10 to 20 Redbirds in drill, or dance, before throne.)

DOVE.—Behold the Orioles; they, too, ask for peace.

(Enter Orioles, dance or drill.)

(Other songs, dances, or drills may be here introduced.)

DOVE (approaches throne, addresses Eagle).—And so you see, O King, the birds are all for peace. Then let us make a compact of friendship that shall endure forever. A compact of love and confidence 'twixt birds and man.

(Turns to audience, recites.)

Since time began, 'tis our mission here,
To give pleasure to man, to gladden and cheer,
To comfort, inspire, and ever bless,
And give to him the highest of happiness;
To lure him away from the haunts of care,
To God's own Temple of the Woods, and there
Whilst all in Nature so joyous sings,
To lift his thoughts to higher things,
To birds and flowers and starry skies,
And all the mystery that round him lies;
To hear the music of rustling leaves,
The vague wind sighing among the trees,
The plaintive notes of the Mourning Dove,
The Cardinal's song to his lady-love,
The evening chant of the Whip-poor-will,
And all birds' songs that to rapture thrill.
And so, with Nature's balm refreshed,
He will find at last, that perfect rest.

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And Peace, that peace the world denies,
Which at the heart of Nature lies.
Then wake, O, man! Awake and hear
The message of the birds we bring you here.
Love, protect us, and we'll repay
In a thousand ways from day to day.
Together our voices will rise in praise
To Him who guideth all our ways.
For there is no great, there is no small,
To Him who made and loveth all.
(Turns to Eagle.)
This, then, O King, is the compact true,
'Twixt bird and man. We wait on you.
(Bows before throne.)

EAGLE.—Your words are fair, O Dove, but I comprehend them not. I see only the wrath and the whirlwind, the war and bloodshed, the strife and the struggle of unhappy man. No! No! I trust him not. Never will I be his friend, but hie me back to my distant eyrie, among rocky peaks, there to dwell, solitary and alone, lord of the air, monarch of the sky, the symbol of liberty and freedom forever. As for you, O birds, I warn you. Remember the fate of the Tern, the Egret, and the Osprey. May it not be yours! But you have chosen. You are now man's friend, and I am no longer yours. (Descends from throne. Makes fervent gesture.) Farewell! Farewell! (Exit.)

BIRDS (*Sing to the air of Lohengrin's 'Swan Song'.—Wagner.*)—

Farewell, farewell, O king most dear,
Our hearts are still quite true.
They beat with love for all mankind
And still with love for you.
Farewell! Farewell! Farewell! Farewell!

BOBBIE.—Say, he's awfully down on us humans, isn't he? But I don't blame him, the way we have acted. But we won't any more. No, siree! Now I understand. Those Audubon folks are all right, and I'm going to join a Bird Club quick as I can. And that Jimmie Bean—if I catch him killing another bird, I am going to just—just—(makes a fierce gesture) *lamm* him! (Stops and thinks a moment, lifts hand to head.) No, I won't, either. I'll just get him to join a Bird Club, and then he won't want to. And I'll get all the boys I can to join. I tell you, folks, I'm for the birds now and forever (swings cap above his head, puts it on again). And now, birds, I must be off. Can't you all sing a song before I go?

POLLY.—Yes, yes! Let's all sing! (Squawks, makes harsh, absurd sounds. Birds all laugh.)

BLUE JAY.—O, shut up, Polly! You can't sing any more than I can. Why even the little Hummingbird could do better than that.

BOBBIE.—O, can the Hummingbird sing? (Turns to littlest bird.) Say, little Hummingbird, won't you sing a song for me? (Takes her by the hand and leads her forward.)

HUMMINGBIRD (*Sings to air of 'Little Birdie in the Tree.'—From "The Charm." P. P. Bliss.*)—

I'm just a little Hummingbird, Hummingbird, Hummingbird,
I'm just a little Hummingbird, but I can sing a song for you,
All about the roses, wet with morning dew,
And the sky above us, so lovely and so blue.

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I'm just a little Hummingbird, Hummingbird, Hummingbird,
I'm just a little Hummingbird, but I can sing for you,
All about the sunshine, so cheerful and so bright,
All about the moonbeams, and the stars that shine all night.

I'm just a little Hummingbird, Hummingbird, Hummingbird,
I'm just a little Hummingbird but I can sing for you.

BOBBIE.—That's fine, splendid! Thank you, little Hummingbird (leads her back to place). Now, birds, all sing. Give us a grand big chorus.

(Birds gather around Bobbie, waving wings and singing gaily. Bobbie, smiling, keeps time with hands and feet.)

CHORUS.—*To air from 'Martha' ('When far from the town,' etc.—Flotow.)*—

1. Come, then, let us sing,
So joyous, happy, blithe and gay.
'Tis time to say farewell
And fly away, away, away.
O, Bobbie, Bobbie, Bobbie dear,
We'll never more have cause to fear.
He'll never lift his gun again
To shoot and kill his little friend.

2. Come, then, let us sing,
So joyous, happy, blithe and gay.
'Tis time to say farewell
And fly away, away, away.
We'll build our nests about his door
And sing to him as ne'er before,
And we can now in safety rear
Our little birdlings without fear.

3. Come, then, let us sing,
So joyous, happy, blithe and gay.
'Tis time to say farewell
And fly away, away, away,
Let children all remember this—
That joy and love and happiness
Will come to those who kindness show
To every living thing below.

Come, then, let us sing,
So joyous, happy, blithe and gay.
'Tis time to say farewell
And fly away, away, away.

THE END

[One hundred children took part in this Bird Masque, which was very successfully given, the author writes. She adds: "I find a deep and growing interest in birds, in this part of the country, and I am doing what I can to increase it." In view of the importance of preserving bird-life in the state of Arkansas, this report from Fort Smith, Ark.,

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is most encouraging. Other teachers will find this little play one that can be simply staged and given with effect, if the parts are thoroughly learned and the costumes appropriate. The Woodpecker Song by Nevin may also be used.—A. H. W.]

NEAR A WOODPECKER

One Sunday, as I was up in a tree on which I had put a ladder, a Woodpecker came and started to hunt for insects. I came down to get a view of him and he went up; then I went up. I watched him for about five minutes, and he came down. I came down, too. When I was on a level with him I looked around the tree, and he hopped to the other side. This we did eight or ten times, and then he flew away to another tree. Not caring to watch him any more, I came into the house.—ALBERT B. HEMSTREET (age 10 years) *Canton, N. Y.*

[The illustration, done in pencil, by the boy who wrote this article about being near a Woodpecker, is so realistic that it is unfortunate it cannot be reproduced here.

On one side of the curved trunk of a crab-apple tree clings the boy, while on the other side a Woodpecker comes tapping around beneath the remains of chunks of suet nailed to the tree, where birds have fed during the winter. The boy's mother writes an interesting word about Chimney Swifts: "I wonder if you have had reported the fatality among Chimney Swifts? We have found at least thirty and *possibly more*, as I told the children not to bring me any more. We think it may be due to cold, damp weather, requiring hot furnace fires. Other Swallows (NOTE.—The Swift is not a Swallow.—EDITOR) have been found in unusual numbers." Will readers of this article send word to the School Department of any similar observations of the death of Chimney Swifts? —A. H. W.]

MULTNOMAH BIRD CLUB
Photograph by A. L. Campbell

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THREE-YEAR-OLD JUNIOR AUDUBON CLASS

The Multnomah Junior Audubon Club

This Club was organized April 26, 1915, with thirty-three members. We have our meetings in the school grove during the good weather, and all of the children take some part in the program. During the winter we have illustrated lectures by W. L. Finley, Dr. Hodge, and others.

Many unfortunate birds that have met with accident have been cared for by the members, and although this is the third year since our organization, the children are still interested and did good work at our meetings this summer.

The children are very fond of going on observation trips, so we usually take a short walk after our weekly meetings. Fifty of our common Oregon birds have been observed by most of the members.

DR. C. F. HODGE HELPING SOME OF THE BOYS OF THE MULTNOMAH CLUB BUILD A CEMENT BIRD-BATH IN A STUMP.

Photographed by A. L. Campbell

I saw an article, asking "What becomes of the Junior Clubs after the first year?" I suppose a great many of them last only one year, so I thought it would be interesting to report a wide-awake three-year-old class.—MAMIE E. CAMPBELL.

[Miss Campbell is the enthusiastic leader of this active Junior Audubon Society. It is pleasant to receive such an encouraging report, for many Junior Societies disband after a year's organization. If more could keep up club-work together, it would be a great advantage to any school or community in which such societies are located.—A. H. W.]

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PILEATED WOODPECKER

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 94

While lying abed late one morning in camp listening to the lusty shouts of a Florida Wren, I became aware of a muffled knocking sound often repeated. It was the time of day when a field naturalist should be up and abroad, but we had gone into camp late the evening before, after a hard day's trip, so I was trying to get a little beauty sleep while the guide was away on the lake seeking fish for breakfast. But the Wren would not permit slumber, so, with mixed feelings of admiration and annoyance, I lay and listened to its wild expressions of merriment. The mysterious pounding finally caused me to get up and go out of the tent to discover its source. In a little while I found, about 60 yards away, a tall dead tree, old and greatly decayed. Perhaps 50 feet from the ground was a fresh round hole, while numerous fragments of wood were scattered on the carpet of dry forest leaves beneath. It was clear that the pounding was going on inside this tree and at some distance from the ground.

Bringing an axe from the camp, I gave the tree several vigorous strokes. Soon there emerged from the entrance-hole a Pileated Woodpecker. After bounding away a few yards, it returned and alighted just above its nesting-hole. It surveyed me in a startled manner for a few seconds and then flew to a near-by tree. Its shouts soon brought its mate, but the wary birds did not tarry long. In a few minutes the forest had swallowed them. For five days we lay in camp at this spot, and while we rarely saw the Pileated Woodpeckers, it was only necessary to remain in the tent a short time at almost any period of the day in order to hear again that muffled knocking sound, made by one of the birds as it chiseled away at its work.

The birds were not sufficiently frightened or annoyed by our presence to desert the nest they probably were building, but it was evident that they wished to take no chances by allowing themselves to be seen.

There possibly may have been eggs in the nest at the time, for these Woodpeckers are known to dig away at the walls of their nesting-cavity with their bills after the eggs have been laid.

With what fortunes the birds met in their attempt to rear a brood that year I did not learn, but doubtless they had a successful season. Eight months later, when passing through the same territory, I visited the spot and found that the old tree had fallen. Cutting away the wood I discovered that the cavity made by the Woodpecker had extended downward for a little more than 3 feet, turning slightly to the right as it descended. Why the hole had not been

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PILEATED WOODPECKER

Order—Pici
Genus—Phlœotomus
Family—Picidæ
Species—pileatus

National Association of Audubon Societies

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dug straight downward I could not discover, as there was no knot nor other indication of especially hard wood that would seem to turn the builders aside. Nevertheless, the bottom of the hole, where, on a layer of fine chips, the eggs and young must have rested, was at least 4 inches to the right of the entrance.

This nest was found in one of the innumerable hammocks which surround many of the lakes in central Florida. Here the heavy growths of oak, magnolias, hickory, and gum make an ideal home for these timid Woodpeckers. The birds are still abundant in suitable regions of that state, but one should go to the primeval forests to find them, for they do not like woodlands that have been cut over, and it is very rare to see one in the open pine-barrens of the sandy country.

Next to the giant Ivory-billed, which is now almost extinct in the United States, the Pileated is the largest of the Woodpecker family found in this country. In order to get a somewhat accurate impression of its size, one may think of it in comparison to a Crow. From tip of bill to tip of tail the Common Crow is about 18 inches, and when the wings are spread to their greatest extent, the distance from tip to tip is about 27 inches. The same measurements for the Woodpecker under discussion are 17 inches in length and 27½ inches across when the wings are expanded. There is, however, much individual variation in the length of both birds. For example, the Woodpecker ranges in size from 15 inches to 19 inches and the expanse of wings varies in different individual birds from 25 to 30 inches, so it is a perfectly truthful statement to say that the Pileated Woodpecker is as large as a Crow.

The eggs of this species, like those of all other Woodpeckers, are glossy white. They range in number from four to six, and in size measure about 1¼ inches in length and a little less than an inch in width. The period of incubation is eighteen days. The young are hatched naked and are extremely helpless. They do not leave the nesting-cavity until the wing-quills are well grown and the birds are quite able to fly. The parents take turns incubating the eggs, and it is said that if the one on the nest desires to leave, it will call its mate and remain in the hole until the other comes.

The food of the Pileated Woodpecker is composed largely of insect life. It is very fond of grubs, wood-boring beetles and ants, especially those species that make their homes in dead wood. To procure this food the Woodpecker has developed remarkable skill as a woodcutter. It will attack a dead tree or log and in half an hour will leave a pile of chips of which a less ardent worker might well be proud. Often fragments of wood as large as one's hand may be seen where the bird has been at work, and I once measured a combination chip and splinter more than 14 inches in length. While engaged in this carpenter work, the Pileated Woodpecker is not always the shy bird we sometimes think it to be. One frequently may approach in the open woods to within a few rods of a feeding bird, and often, when startled, its flight may

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be of short duration. In some of the southern towns, where heavy forests are adjacent, this species will sometimes come into the groves about dwellings.

While a student at the University of North Carolina, I remember seeing three on the University campus at one time. Three pairs of the birds constantly inhabited the college woods, a tract of perhaps 100 acres, which adjoined the campus. Although the nests are often built a considerable distance from the ground, I have found them in Guilford County, N. C., at a height not greater than 12 feet, but this was probably exceptional.

Mr. Arthur T. Wayne, of Mt. Pleasant, S. C., who has spent much time studying the habits of this bird, in his 'Birds of South Carolina,' says:

"This species uses a certain hole, which it excavates in a living black gum or a living sweet gum tree, in which to sleep, and it is so attached to it that I have known one of these birds to resort for years to the same hole to spend the night. This sleeping-hole is almost always excavated in a tree which is hollow from the base to within a foot of the first limb. Sometimes two holes are bored in the same tree, and if an attempt is made to catch the bird, it can escape by going through either of the holes or else make its exit at the base.

"If the season is a forward one the birds mate early in February and towards the latter part of the month they begin to excavate their hole, which requires exactly a month for completion. During the month of March, 1904, I made observations on a pair which excavated their hole in a dead pine. On March 21, the opening was commenced by the female, who drilled a small hole, and by degrees enlarged it to the size of a silver dollar. The male assisted in the excavation, but the female did by far the larger part of the work. The size of the aperture was not increased until necessary to admit the shoulders of the bird. I visited these birds every day in order to note the progress of their work, and, being so accustomed to seeing me, they were utterly fearlesss and I could, at any time, approach within twenty feet without hindering the work, although the hole was only about thirty feet from the ground. This hole was completed on April 21, and the first egg was laid the following morning. As incubation commences upon the advent of the first egg, and as the eggs are not laid consecutively, I did not again examine the contents of the nest until April 26, when three eggs were found. Upon investigating the cavity on April 28, and finding but three eggs, I concluded that the set was complete. In this case the excavation was made under a dead limb, and was about eighteen inches deep, being hollowed out more on one side than the other. This Woodpecker is so attached to the tree in which it has first made its nest that it continues to cling to it as long as it can find a suitable spot at which to excavate a new hole. It never uses the same hole a second time. I know of a pair of these birds which resorted to the same tree for four consecutive years, and each year they excavated a new hole.

"Another pair of these Woodpeckers bred in a gigantic dead pine for three years, and as an illustration that their large holes are in great demand by other

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birds, and even mammals, for breeding purposes, I will state that on April 16, 1903, there were three species breeding in the same tree, namely—Pileated Woodpecker, four eggs, at a height of 54 feet; Fox Squirrel, at 70 feet; and Sparrow Hawk, at approximately 90 feet from the ground—all living together in perfect harmony!

"If this bird is deprived of its first set of eggs, it at once excavates a new hole, and the length of time consumed in its construction is about twenty-five days."

The Pileated Woodpecker is one of the noisiest tenants of the heavy forests and wooded swamps which it inhabits. Particularly is this true during the mating-season and after the young have left the nest. They have a long rolling cry which strongly suggests similar notes produced by the Flicker, except that they are louder and the intervals between the calls are slightly longer. At times they become extremely animated, and two or three will gather on the trunk of some tree or the larger limbs and engage in querulous, conversational, *wick-y-up* notes which again suggest the actions and calls of the Flicker.

In flight the bird does not proceed with the undulating movements common to many Woodpeckers. The flight is more or less directed in a straight line. The white underparts and the large white blotches on the wings contrast strongly with the black back. The white wing-area shows so plainly that one may often discover the bird flying at a distance by the heliostatic flashes of white.

Although, as already indicated, the food consists largely of an animal diet, the bird also is fond of certain forms of wild berries, and it presents an awkward and ungainly appearance as, in an uncertain and more or less laborious manner, it seeks to retain its perch and gather berries among the small twigs.

The Pileated Woodpecker is found over a wide range of North America. From southern Florida, middle Texas and California it is distributed in suitable localities as far north as British Columbia, central Quebec and Newfoundland.

Of recent years, ornithologists have regarded the species as being composed of two varieties, the Northern Pileated Woodpecker, embracing those individuals found along the Alleghany Mountains and northward throughout its Canadian range.

The bird has a variety of local names such as 'Cock-of-the-Woods,' and 'Log-Cock.' One of the most popular in the South is 'Good-God.'

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

THE THIRTEENTH ANNUAL MEETING

The Thirteenth Annual Meeting of the National Association of Audubon Societies was held in the American Museum of Natural History, New York City, on October 29 and 30, 1917.

The first evening, a large audience gathered in the main lecture hall, where Dr. Frank M. Chapman presented Rollo H. Beck, who spoke on 'Oceanic Bird Life,' illustrating his address with a large series of splendid slides from his photographs made of water-birds taken in the Cape Horn region. Norman H. McClintock followed with 5,000 feet of magnificent moving pictures.

The business meeting of the Association, which was held on the morning of October 30, was also well attended. The Secretary reported on the work of the Association the past year. This was followed by the report of the Treasurer, who showed that during the year the income of the Association amounted to over $144,000, which is about $30,000 more than the income the year previous. Reports of field workers followed, addresses being made by E. H. Forbush, H. K. Job, Winthrop Packard, Dr. Eugene Swope, and Mrs. Henry F. Cone, of Hartford, Conn.

Dr. Frank M. Chapman and William P. Wharton were reëlected members of the Board of Directors.

After luncheon an Educational Conference was held, which was presided over by E. H. Forbush. Here interest ran high, and the exchange of experiences continued until night. Among those who spoke were Mrs. Mary S. Sage, School Lecturer for the Association in New York state; Prof. Madison, of Providence; Bradford A. Scudder, of Greenwich, Conn.; Walt F. McMahon, of the home office; and Dr. Swope, of Cincinnati.

One of the most enthusiastic addresses we have had the privilege of hearing was that given by Mrs. Cone, Secretary of the Hartford Bird-Study Club. Mr. Baynes spoke of the Meriden Bird Club and the formation of various bird clubs which he asked to join the National Association.

Interesting talks also were made by Winthrop Packard, Field Agent for the National Association and Secretary of the Massachusetts Audubon Society. Remarks by Frank O. Pilsbury of Walpole, Mass., and others followed.

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A BIRD-WALK IN CENTRAL PARK, NEW YORK CITY, UNDER THE LEADERSHIP OF WALT F. McMAHON.

A NEW AUDUBON ACTIVITY

The National Association has established another public educational feature that is welcomed by bird-lovers in New York City. Realizing the great need of local bird-walks, such outings have been arranged, with Walt F. McMahon, of the home office, as leader. Every Saturday morning, weather permitting, the party meets at 8 o'clock at the Band Stand on the Mall in Central Park. For two hours the wooded paths are explored, and the edges of the lakes and the open lawns are examined for migrant bird-life.

Under the protection of the City Department of Parks, the birds are remarkably tame and allow intimate inspection by the enthusiastic observers. On one trip an interesting game of tag between a Sharp-shinned Hawk and a group of Flickers offered exciting entertainment. A pair of Black-crowned Night Herons, in immature plumage, was contributed to the check-list by one of the Park workmen who, noting the group scanning the tree-tops with bird-glasses, offered the suggestion that there were "some kind of Night-Owls" in a tree near-by. Many interesting little glimpses of wild bird-life have added much pleasure to these excursions. Opportunities are offered to observe the commoner birds of the region, and there is also that ever-present charm of a bird-walk—the exciting possibility of finding some unexpected species. At the end of the trip check-lists are compared and the leader gives a short informal bird-talk, commenting briefly on the characteristics of the species recorded.

These outings are public, and all who are interested in bird-study are cordially invited. Those who have attended have expressed their pleasure and, judging by their prompt appearance week after week, this new activity of the National Association is received with appreciation and approval.

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ONE OF THE MANY INTERESTING VIEWS ON THE WALLACE EVANS GAME FARM, ST. CHARLES, ILLINOIS.

THE WORLD'S GREATEST GAME FARM

The Wallace Evans Game Farm, situated at St. Charles, Ill., is undoubtedly the largest enterprise of this kind in the world. Here are propagated various forms of wild birds suitable for food. There are also extensive deer parks. Recently some of us visited this extremely interesting nursery of wild birds. Many species of Ducks and Geese were seen at close quarters, as well as Pheasants and Swans. One of the most interesting of these is the Wood Duck which, over wide areas of America, has become extinct, but here large numbers are raised annually. Few of these birds are ever killed for food. They are, in the main, used for breeding stock.

Tens of thousands of various game-birds are sent out from here every year to restock depleted coveys throughout the length and breadth of the land. This farm is a vast enterprise of conservation and is helping fight the battle for an increased food-supply. Many persons with large estates might well do likewise.

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WILD-LIFE CONSERVATORS AT THE WALLACE EVANS GAME FARM.
Left to right:—Graham, Mass.; Burnham, N. Y.; Forbush, Mass.; Bradford, Del.; Ward, Ky.; Pearson, N. Y.; Adams, Mass.; Crampton, Conn.; Strell, Ill.; Millett, Mass.; and Leavens, of Vermont.

MALLARD DUCKS ON THE WALLACE EVANS GAME FARM AT ST. CHARLES, ILLINOIS.

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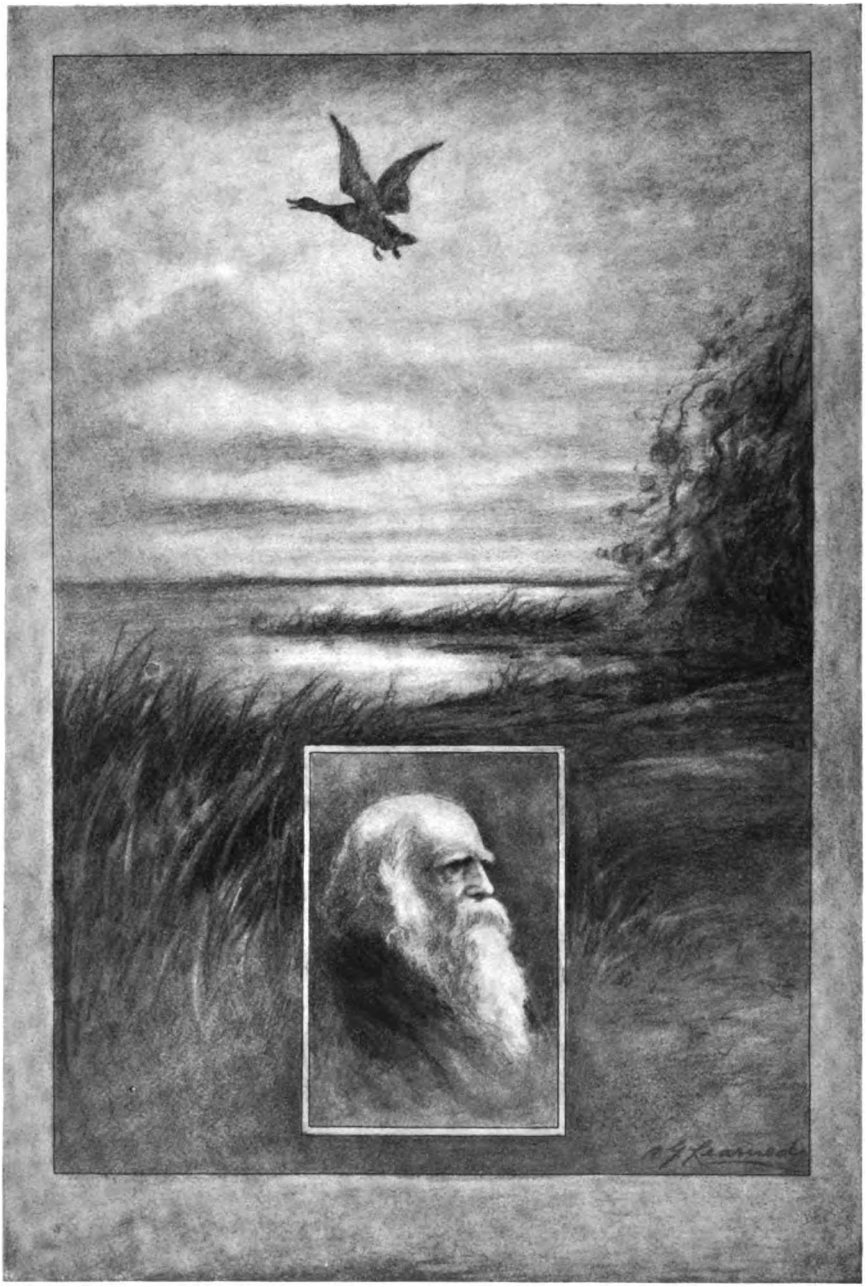

WILLIAM CULLEN BRYANT AND THE WATER-FOWL.
From a drawing by A. G. Learned.

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Enforcement of the Federal Plumage Law

In November, 1916, Angelo Tartaglino, cook on the steamship 'Kroonland,' was arrested at the gate as he landed with a bag of contraband plumes concealed under his clothes. He was charged with violating Section 3082 of the Revised Statutes and paragraph 347 of the Tariff Act. The case was tried by Judge Manton of the District Court. Judge Manton found Tartaglino guilty and sentenced him to eleven months and fifteen days imprisonment on Blackwells Island and $500 fine.

Upon examination it was found that other plumes were concealed upon the ship, and these also were seized. When arrested, Tartaglino was making his second trip, having bought the business from Luigi Strada for $200. Strada had made four trips before selling out. The feathers were provided by Giuseppe Arbib, of London, who smuggled them on shipboard at Liverpool. Tartaglino took them ashore and delivered them to John Ruscetta on 34th Street. Arthur Arbib called there for the plumes and paid the men for their work. Government agents seized forty-three boxes of plumes stored in his apartments. Arbib was found guilty, but because of his physical condition, which requires constant medical attention, his prison term was changed to $5,000 fine.

Knoxville Audubon Exhibit

The East Tennessee Audubon Society had at the recent East Tennessee Division Fair one of the best exhibits of bird-life that has ever been displayed in that region. It consisted mainly of sixty-two mounted specimens of birds common to that locality and numerous colored plates illustrating those of other parts of the country.

These materials were loaned to the Audubon Society through the courtesy of Dr. George Clyde Fisher, of the American Museum of Natural History, who had lectured to the Society during his stay in Knoxville, as one of the professors at the Summer School of the South, where he lectured for the National Association of Audubon Societies. The specimens are all correctly labeled and are identified by Mrs. Karl E. Steinmetz, one of the most active members of the local Society, who for several years has taken an active part in the promotion of bird-study.

The main object of the exhibit was to impress upon the people of the city and the surrounding country the economic importance of birds and to encourage their proper protection.

Seeds Free

Mr. D. C. Peacock, of Atlanta, Ga., an employee of the Government and an enthusiastic Audubon Society man, has written as follows:

"I have found quite a large tree bearing millions of black berries ½ by ⅜ inch. This tree has, for three weeks, been swarming with migrating Thrushes. They are so eager for these berries that they fly in when I am under it. I will have a quantity of these seeds gathered, and for three cents in stamps I will send a few of these seeds to any address. The tree makes a beautiful shade tree.

"If you care to insert the above in BIRD-LORE, I will take pleasure in having small boys gather the seeds and send them to anyone who may care to write for them."

Dr. Harry C. Oberholser, to whom some of these seeds were sent, says that the tree is a species of Rhamnus, probably *Rhamnus caroliniana*. Bailey's "Standard Cyclopedia of Horticulture" gives "Indian Cherry" as the common name for this tree. It is also known as "Yellow Buckthorn."

The distribution of this tree extends from Long Island, where it grows as a shrub, to Florida, and westward to Nebraska and Texas. It is very attractive as an ornamental tree, as well as being an annual source of food for the birds. We are very glad to print Mr. Peacock's kind offer, knowing it will be gratefully received.

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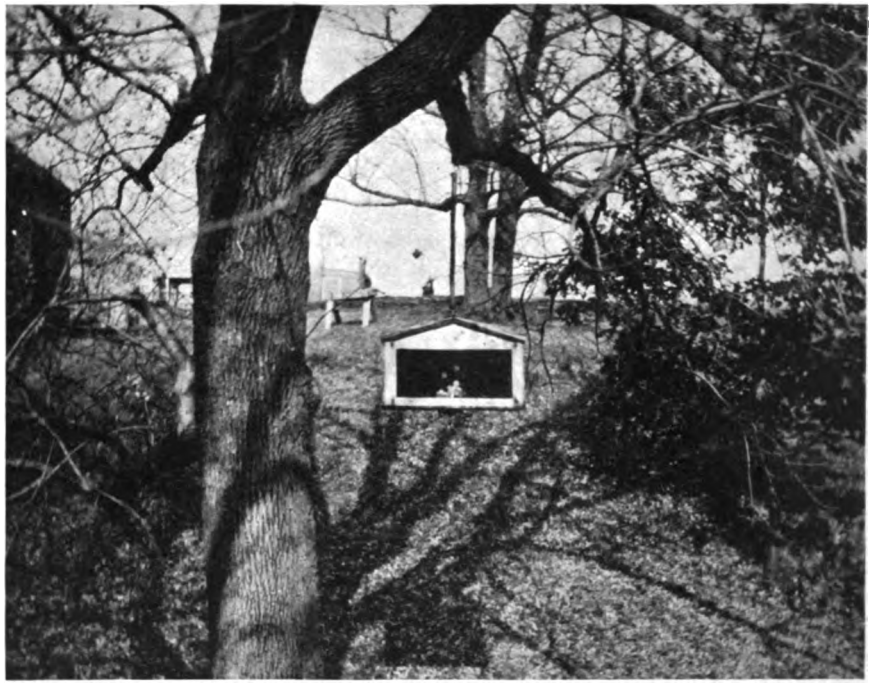

BIRD-FEEDING DEVICE MADE AND OPERATED BY J. P. POLAND, SPRINGFIELD, MASS.

A FEEDING-DEVICE

Mr. J. P. Poland, of Springfield, Mass., writes that he has had very great success with the specially constructed feeding-device for birds which he has now had in operation for over a year. He says that it is built around a chestnut log 8 inches in diameter, and 18 inches long. A hole goes through the log lengthwise, large enough for a ½-inch eye-bolt, the eye upon the upper or roof end and a nut and washer upon the lower end. A long hook passes through the eye on the roof and hooks into a wire ring which encircles the limb of a large white ash tree above. There are twenty-eight holes in the log, 1¾ inches in diameter by 1½ inches deep, into which melted suet has been poured. Upon the floor of the booth various kinds of seed and grain are scattered. The booth is 36 inches long, 36 inches wide, 16 inches high at the eaves, and 22 inches at the peak. The two sides and one end are covered with a double thickness of burlap. The front is left open and can be slatted to keep out Crows.

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CHARLES B. HORTON
President of the Western Pennsylvania Audubon Society

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Annual Report of the National Association of Audubon Societies for 1917

CONTENTS

REPORT OF T. GILBERT PEARSON, SECRETARY

INTRODUCTION.—AFFILIATED SOCIETIES AND BIRD CLUBS.—JUNIOR AUDUBON SOCIETIES.—SUMMER SCHOOLS.—LEGISLATION.—FIELD AGENTS.—AUDUBON WARDEN WORK.—MISCELLANEOUS FACTS.—FINANCES.—NEED OF A BUILDING.

REPORTS OF FIELD AGENTS

EDWARD HOWE FORBUSH.—WINTHROP PACKARD.—DR. EUGENE SWOPE.—ARTHUR H. NORTON.—WILLIAM L. FINLEY.—HENRY OLDYS.—HERBERT K. JOB.—MRS. MARY S. SAGE.—MRS. GRANVILLE ROSS PIKE.—DR. WITMER STONE.—CHARLES CRAWFORD GORST.

REPORTS OF STATE AUDUBON SOCIETIES

ARIZONA, CALIFORNIA, COLORADO, CONNECTICUT, DISTRICT OF COLUMBIA, EAST TENNESSEE, FLORIDA, ILLINOIS, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEBRASKA, NEW HAMPSHIRE, NEW JERSEY, NORTH CAROLINA, OHIO, OREGON, RHODE ISLAND, WEST VIRGINIA.

REPORTS OF AFFILIATED ORGANIZATIONS

AUDUBON SOCIETY OF SEWICKLEY VALLEY (PA.).—AUDUBON SOCIETY OF THE PACIFIC (SAN FRANCISCO, CAL.).—BIRD CLUB OF LONG ISLAND (N. Y.).—BIRD CONSERVATION CLUB (BANGOR, ME.).—BIRDLOVERS' CLUB OF BROOKLYN (N. Y.).—BLAIR COUNTY (PA.) GAME, FISH AND FORESTRY ASSOCIATION.—BROOKLINE (MASS). BIRD CLUB.—BRUSH HILL BIRD CLUB (MILTON, MASS.).—BUFFALO (N. Y.) AUDUBON SOCIETY.—BURROUGHS JUNIOR AUDUBON SOCIETY (KINGSTON, N. Y.).—CAYUGA BIRD CLUB (ITHACA, N. Y.).—COLUMBUS (OHIO) AUDUBON SOCIETY.—CUMBERLAND COUNTY (ME.) AUDUBON SOCIETY.—DETROIT (MICH.) AUDUBON SOCIETY.—DOYLESTOWN (PA.) NATURE CLUB.—ENGLEWOOD (N. J.) BIRD CLUB.—FOREST HILLS GARDENS (N. Y.). AUDUBON SOCIETY.—FRANKFORT (KY.) BIRD CLUB.—GLENVILLE (W. VA.) NORMAL BIRD CLUB.—HARTFORD (CONN.) BIRD STUDY CLUB.—LOS ANGELES (CAL.) AUDUBON SOCIETY.—MAYWOOD (ILL.) BIRD CLUB.—MERIDEN (N. H.) BIRD CLUB.—MINNEAPOLIS BRANCH OF THE MINNESOTA GAME PROTECTIVE LEAGUE.—NEWBURYPORT (MASS.) BIRD CLUB.—NORTH EAST (PA.) NATURE STUDY CLUB.—PASADENA (CAL.) AUDUBON SOCIETY.—PORT HURON (MICH.) BIRD CLUB.—RHINEBECK (N. Y.) BIRD CLUB.—ROCKAWAY BIRD CLUB (FAR ROCKAWAY, N. Y.).—RUMSON (N. J.) BIRD CLUB.—SARATOGA (N. Y.) BIRD CLUB.—SEATTLE (WASH.) AUDUBON SOCIETY.—SOUTH BEND (IND.) HUMANE SOCIETY.—SOUTH HAVEN (MICH.) BIRD CLUB.—SPOKANE (WASH.) BIRD CLUB.—SUSSEX COUNTY (N. J.) NATURE STUDY CLUB.—VASSAR COLLEGE WAKE ROBIN CLUB (POUGHKEEPSIE, N. Y.).—VICTORIA (B. C.) NATURAL HISTORY SOCIETY.—VIGO COUNTY (IND.) BIRD CLUB.—WELLESLEY COLLEGE (MASS.) BIRD CLUB.—WESTERN PENNSYLVANIA AUDUBON SOCIETY (PITTSBURGH, PA.).—WILD LIFE PROTECTIVE SOCIETY OF MILWAUKEE (WIS.).—WILLIAMSTOWN (MASS.) BIRD CLUB.—WINSTON-SALEM (N. C.) AUDUBON SOCIETY.—WYNCOTE (PA.) BIRD CLUB.

REPORT OF THE TREASURER

LISTS OF MEMBERS AND CONTRIBUTORS

BENEFACTOR, FOUNDER AND PATRONS.—LIFE MEMBERS.—ANNUAL MEMBERS AND GENERAL CONTRIBUTORS.—CONTRIBUTORS TO THE DEPARTMENT OF APPLIED ORNITHOLOGY.—CONTRIBUTORS TO THE EGRET FUND.

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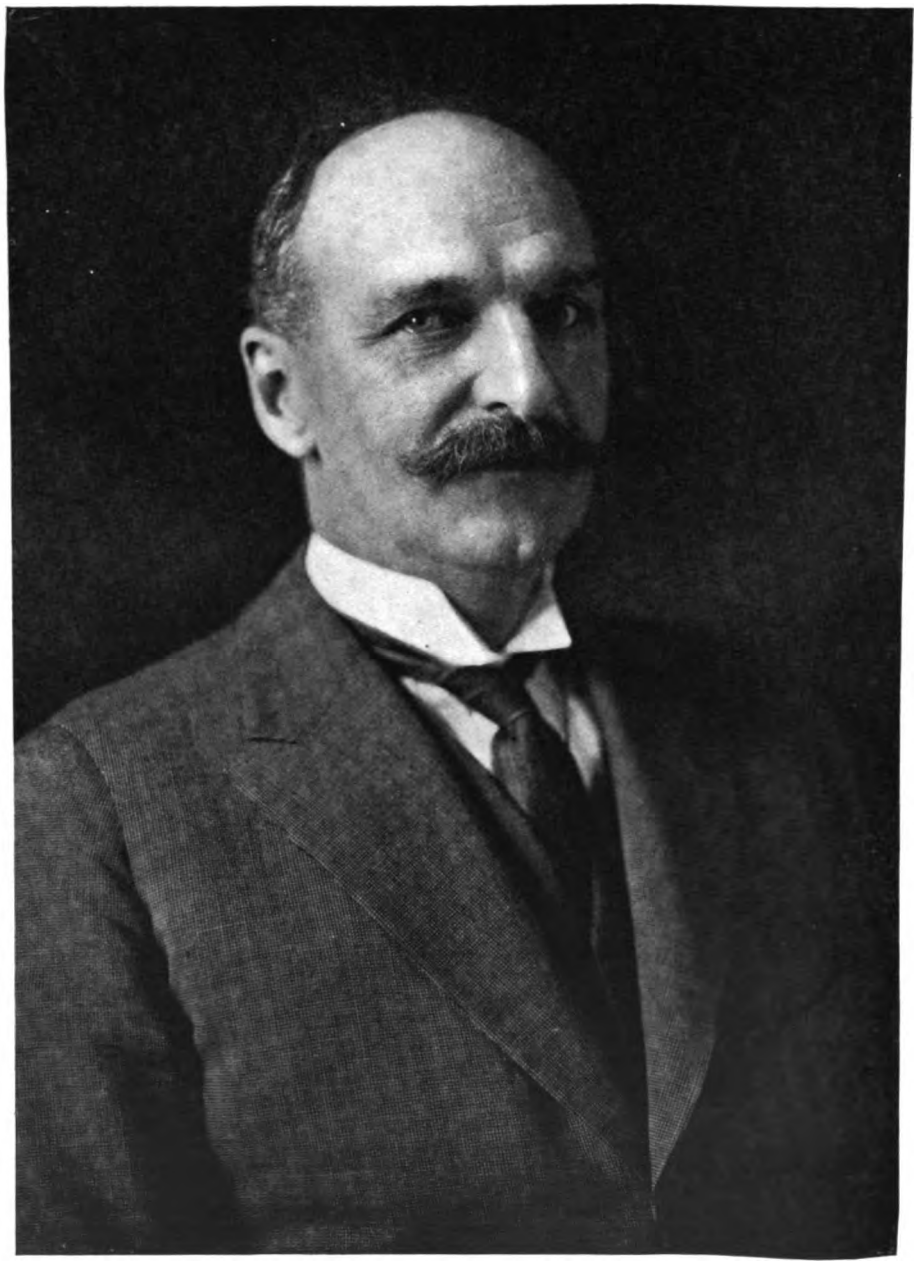

GENERAL COLEMAN DU PONT
Patron of the National Association of Audubon Societies.

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REPORT OF T. GILBERT PEARSON, SECRETARY

INTRODUCTION

A most striking evidence of the esteem in which the public holds the work of the National Association of Audubon Societies and the principles for which it stands has been manifested during the past year.

The entrance of our nation into the world war has called for public service and financial support to an extent never even approached in this country before. Innumerable war charities of the most worthy character have made constant appeals for funds, and huge sums of money have gone into war relief. As a direct result, many institutions supported by the general public have suffered severely. Some have closed their doors, and others have curtailed their activities. Forty-six hospitals in New York City alone are behind in their budgets, and numerous worthy institutions are on the verge of collapse. With this Association it has been different. True, some of our good workers marched away to the war, and some hitherto large supporters have dropped their contributions, but others have come forward to take their places. Now, at the close of our year, it is with much pleasure we announce that in not a single line of our endeavor has it been necessary for us to curtail during the past year, and in most lines of activity we have been able to expand, because of the magnificent support the Association has received, for we have not only held our own, but the sustaining membership has grown 33⅓ per cent during the past twelve months.

This fact demonstrates clearly the seriousness with which the supporters of the Audubon movement regard the value of saving the wild life of the country, and we may take it further as an expression of public confidence in the manner in which the Board of Directors conduct the Association's affairs.

AFFILIATED SOCIETIES AND BIRD CLUBS

All the active State Audubon Societies and the larger per cent of the active local Bird Clubs under various titles are affiliated by membership with the National Association. These affiliations during the past year have grown in number from 114 to 134. About 65 of these Societies and Bird Clubs have submitted reports of their work the past year, and it is planned to publish these in connection with the Annual Report of the National Association. A perusal of these pages will astonish anyone not familiar with the vast amount of local effort being put forth for bird-study and bird-protection in this country. The harmonious coöperation between the National work on the one hand, and the state and local work on the other, is bringing forth many splendid results.

If space permitted, it would be interesting to give here a complete list of the work done by these affiliated organizations, which in the aggregate would

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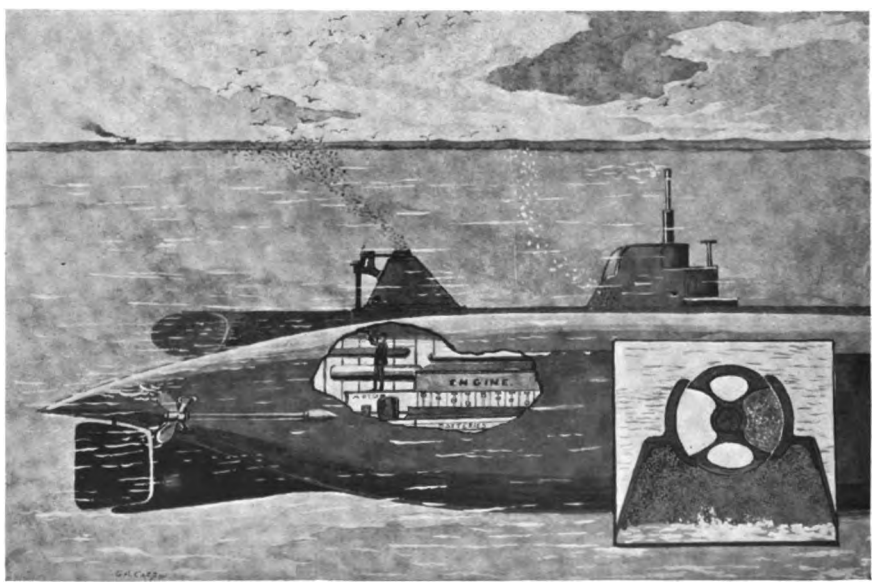
cover approximately the entire field of bird-conservation activities. In reading these reports, the interest that has developed in the establishment of bird-sanctuaries is especially noteworthy. A few of these recently set aside may be mentioned: In Florida there is, at Fort Myers, the Julia Hanson Bird Reservation. Recently the entire community of Winter Park, Fla., was made a bird sanctuary. Indiana reports a sanctuary established near Muncie and also the creation of a new State Park known as McCormick's Creek Canyon Bird Reservation. Then there is the 25 acre sanctuary at Beaver, Pa., established in March by the efforts of the Beaver Field and Audubon Club. The Rockaway Branch of the National Association has access to the Sosiego Bird Sanctuary near that place.

Every little while we are hearing of new bird-havens, and we hope that as others are established they may be reported promptly, in order that the entire list may be prepared for publication.

In our legislative work and in all educational efforts we have found the affiliated organizations ever ready, with rare enthusiasm and intelligence, to carry the battle in their respective regions.

We have been much interested in an ingenious device invented by Dr. A. D. Pentz to train Sea Gulls to indicate the presence of enemy submarines and thus aid in the national defense.



FEEDING GULLS FROM A SUBMARINE.
Diagram showing interesting invention by Dr. A. D. Pentz

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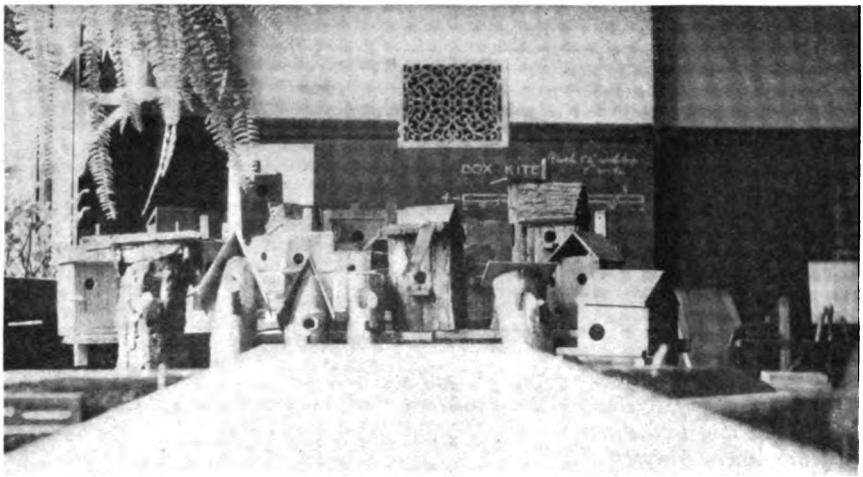

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No phase of the Audubon work has interested so many people during the year as the activities connected with the Junior Audubon Societies. All over the United States, and in thousands of homes in Canada, little children have been wearing their Audubon Buttons and talking of the Audubon Society work.

There are few things that reach the average parent so closely as the instruction his children are receiving in school. Many a man has given up shooting because of the love for birds developed by his child, and many a mother has taken the feathers from her hat because her little daughter told her it was wrong to wear them. People who would never think for a moment of going to a meeting of adults and listening to a program regarding birds, will, with the greatest eagerness, hitch the horse to the old surrey or crank up the Ford and drive 10 miles to attend a Junior Audubon Society entertainment at which one of their own children is to stand on the rostrum for two minutes and recite:

"A birdie with a yellow bill
Hopped upon the window sill,
Cocked his shining eye and said:
'Aint you 'shamed, you sleepy-head!' "

As an indication of how popular this department has grown, I may mention that the past year over 50,000 more Junior Audubon members were enrolled than during the entire period covered by the first four years of our

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Junior work, which began in the fall of 1910. Clouds of witnesses have risen in all parts of the country to show us that the Junior Audubon work is the most far-reaching effort ever made in America, or on any other continent, for interesting both children and parents in the subject of the beauty and value of bird-study.

During the year, 11,935 Junior Audubon Clubs were formed, with a total membership of 261,654 paid members.

This work, as heretofore, was financed to the extent of $5,000 by Mrs. Russell Sage and by $20,000 from a benefactor of the birds whose identity, so far as I am aware, has never been discovered by anyone save the gentleman who annually sends us the checks. After five years, during which $94,000 have been received from this source, the only knowledge that the Secretary has regarding it is that it probably comes from a man.

STATISTICAL SUMMARY OF JUNIOR AUDUBON CLASSES ORGANIZED DURING THE YEAR ENDING JUNE 1, 1917

States	Classes	Members
Alabama	32	530
Arizona	8	176
Arkansas	28	643
California	348	8,431
Colorado	70	1,771
Connecticut	611	12,546
Delaware	7	109
District of Columbia	3	77
Florida	216	4,049
Georgia	131	2,578
Idaho	24	364
Illinois	433	11,722
Indiana	359	6,490
Iowa	279	5,832
Kansas	114	2,447
Kentucky	114	2,391
Louisiana	30	542
Maine	79	1,585
Maryland	150	3,360
Massachusetts	519	10,802
Michigan	542	10,855
Minnesota	427	9,541
Mississippi	38	991
Missouri	115	2,999
Montana	41	1,063
Nebraska	127	3,080
Nevada	22	474
New Hampshire	317	6,165
New Jersey	579	14,382
New Mexico	10	165
New York	1,841	41,514

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MISS RICHARDSON OF NEW YORK CITY, AND JUNIOR AUDUBON CLASS STUDYING A MOUNTED SPECIMEN OF THE BALD EAGLE AT THE AMERICAN MUSEUM OF NATURAL HISTORY.

States	Classes	Members
North Carolina	134	2,925
North Dakota	90	1,888
Ohio	1,121	22,249
Oklahoma	55	1,149
Oregon	190	4,100
Pennsylvania	732	17,464
Rhode Island	44	1,215
South Carolina	61	1,600
South Dakota	43	785
Tennessee	101	2,541
Texas	150	3,960
Utah	33	738
Vermont	48	873
Virginia	120	2,356
Washington	604	14,696
West Virginia	196	4,130
Wisconsin	139	3,070
Wyoming	11	193
(Foreign) Canada	449	8,048
Totals	11,935	261,654

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SUMMER SCHOOLS

The Association's experiment in conducting courses in bird-study in summer schools for teachers has proven a success. The past summer, for the third time, we arranged with the directors of a number of summer schools for giving instruction in bird-study and bird-protection, the expense being borne jointly by the Association and the colleges where the work was done. The past season the following instruction was given:

Prof. J. Bowie Ferneyhough gave the bird-work at the University of Virginia this summer, consisting of a six-weeks' course of lectures, laboratory work, and field excursions. Eighteen pupils took the course; fifteen passed final examinations satisfactorily and obtained credit on the primary and grammar grade professional certificate.

Prof. Ralph Hubbard, of Cornell University, presented a course in bird-study at the University of Colorado, at Boulder. This consisted of classroom work, laboratory periods, and field-trips. Two public lectures were given. The course was six weeks in length. Sixteen students took the course as regular college work, fourteen of them receiving credit.

Dr. G. Clyde Fisher, of the American Museum of Natural History, New York City, taught bird-study for four weeks at the Summer School of the South, Knoxville, Tenn. Twenty-six students took the course. Four public lectures were given before the University and one before the Audubon Society of West Tennessee.

Dr. Eugene Swope worked for four weeks at the State University of Florida, at Gainesville. Fifty-four pupils registered. He was able to arrange to have his bird-students receive the same credit as in such regular college courses in history, English, physiology, etc. Dr. Swope seems to have been rather severe in his final examinations, for he passed only nine for full credit. Some of his field-walks were given at 4.30 A.M., and the attendance on these occasions varied from eight to sixteen.

Miss Lillian Finnell, of Tuskaloosa, Ala., arranged to give one lecture at seven summer schools in Alabama and Mississippi, and by visiting classrooms and otherwise meeting teachers, presented the subject in detail. She did this work at the following places: University of Alabama; Agricultural and Mechanical College; Mississippi College; University of Mississippi; Mississippi Industrial Institute; Alabama Agricultural and Mechanical Institute; and Howard College, at Birmingham, Ala.

Prof. Charles S. Brumbaugh, of Cornell University, gave a course in bird-study at the Maryland Agricultural College. Thirty took the course, and five secured college credit marks. The course given was closely modeled after that regularly given by Prof. A. A. Allen at Cornell. Slides, lectures, and field-walks were used for demonstration purposes.

Dr. Clifton Hodge, probably the most popular nature lecturer in this

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DR. SWOPE'S SUMMER SCHOOL CLASS AT THE UNIVERSITY OF FLORIDA, JUST IN FROM A BIRD-WALK. NOTE THE WATERMELONS!

country, gave a course of four weeks in bird-study at the University of Georgia. Several hundred attended these classes. A number of public lectures were given to the entire Summer School of 1,300 members.

Prof. H. G. McGowan conducted a four-weeks' course in bird-study at the University of Mississippi, with worth-while results.

Dr. H. F. Perkins, of the University of Vermont, continued his bird-teaching efforts again this summer. Fifteen pupils took the course. He also gave public lectures to the entire Summer School.

Miss Belle Williams, of Columbia, S. C., taught a month's course in bird-study at the State Normal College at Winthrop, S. C. The students did not work for credit. Her classes numbered from twenty to fifty.

Dr. Witmer Stone, of the Academy of Natural Sciences, Philadelphia, gave more than a month's lecture-work in South Carolina, lecturing to students of the State University at Columbia, to members of the Charleston Museum, to the people of Manning, and at a number of teachers' gatherings.

The most striking development of our summer-school work this year has been the readiness with which some of the college authorities have been persuaded to give college credit to students who successfully completed the course provided by our instructors. Such a thing as giving credit for a summer-school course in bird-study was unheard of not many years ago.

Again we would urge that members who are interested in the educational phase of the Association's work should consider the possibility of helping to support this field of activity. A moment's reflection will readily convince one of the importance of thus reaching these thousands of teachers gathered in

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strategic centers during the summer. As heretofore, almost the entire cost of this work the past summer was borne by one of our life members, Miss Heloise Meyer.

LEGISLATION

Forty-three state legislatures convened during the year. In these we have been, in many cases, active in wild-life legislation. Some of the more important ones may be mentioned:

In California the usual flood of game bills was introduced, many of which were of an adverse character to wild-bird protection. For the sixth consecutive session, attempts were made to take protection from the Meadowlark, and this year the Flicker came in for condemnation. Mrs. Myers tells us that the chief complaint against this bird was that it makes holes in buildings.

Through the strenuous activities of our California friends, practically all harmful bills were killed, although protection was taken from Blackbirds in three of the northern counties.

The Florida Audubon Society was very active in endeavoring to secure the establishment of a state game commission. Your Secretary visited Tallahassee in the interest of the measure and, with Dr. Blackman, President of the Florida Audubon Society, stood in the lobby of the Senate when that body passed the bill, after it had passed the lower House. The Governor, however, being of different political faith from that of the Legislature, vetoed the bill.

In New York State we were much interested in the passage of the bill to establish a rural state police, which was advocated by one of our members, Miss Katherine Mayo, of Bedford Hills. This bill became a law.

Another splendid measure enacted was a law requiring nature-study and humane education in the schools of the state. This was a great compliment to Mrs. H. Clay Preston, of Buffalo, who for so many years worked for this measure.

We were glad to support a bill appropriating $15,000 and providing for the establishment of a course in wild-life conservation at Cornell University. The fight for this was led by the American Game Protective Association.

In Ohio, bills to continue the protection of Quail for one, two, and five years were introduced. This met with our hearty support, and Dr. Swope was very active in working for them. In the end, a bill was introduced by the farming element of the Legislature to put the Quail on the song-bird list and give it protection at all times. This bill became a law.

In North Carolina, a bill to establish a state game commission was introduced by the State Audubon Society, but failed of passage by a narrow margin.

In Oregon there was established, by legislative enactment, a wild-game refuge which includes the greater part of the counties of Multnomah and Clackamas.

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In Connecticut, three cat license bills were introduced. None of them passed. A bill passed providing a closed season on Golden and Black-bellied Plover, Greater and Lesser Yellow-Legs, and Wilson's Snipe, from December 31 to August 31, inclusive. Other small shore-birds are protected, and for those that may be shot a bag limit of ten was established.

A cat license bill was also introduced in the Legislature of New Hampshire, but did not become a law.

In the New Jersey Legislature, a bill providing for a bounty on Hawks and Crows was again introduced. The New Jersey Audubon Society opposed this, and the bill died.

By far the most important pending legislation of the year has been the Enabling Act in Congress. This is a bill to provide authority for enforcing the Migratory Bird Treaty between the United States and Canada.

Early in the year the bill was reported in the Senate by the Senate Committee having the matter in charge. During the months of January and February the Secretary spent most of the time in Washington, directing a lobby in the interest of this matter. Special workers were brought, at the expense of the Association, from Kansas and Alabama, and much publicity was given to the entire subject. The members of the Association, as well as the officers and members of affiliated societies and clubs throughout the country, were appealed to and responded nobly by bringing to the attention of their Senators the expression of local sentiment. The Massachusetts Audubon Society was especially helpful and was very liberal in its contributions. The bill would doubtless have passed at that time but for the fact that it was regarded as an administrative bill, and was therefore one of the measures doomed to defeat by the "little group of twelve wilful Senators."

When the new session of Congress convened in the summer, the bill was reintroduced. It was reported favorably by the Senate Committee that had it in charge, and on July 29 passed the Senate by a large majority. The measure has not yet been brought up for consideration in the House. The second gathering of the present session of Congress will probably take place in December. Every effort must be made at that time by the friends of the birds to bring the bill up for a vote and thus end this fight for which conservationists have been working for many years.

FIELD AGENTS

During the past year, in addition to our regularly employed field staff, we have financially coöperated with several other forceful workers who have represented the Audubon cause in their respective fields of endeavor.

Ten of these are mentioned under the head of 'Summer Schools.' Others are: Mrs. Granville R. Pike, of Washington, who lectured in the schools of her home state for three months, where she organized large numbers of Junior

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Audubon Clubs. Mrs. Pike also went to California and for a month preached the gospel of bird-protection under the auspices of the State Federation of Women's Clubs. Ernest Harold Baynes continued his well-known work of general lecturing and formed a number of bird clubs. Charles Crawford Gorst continued his Chautauqua bird-work. On the Redpath-Homer Chautauqua's circuit he lectured for three months in Texas, Kansas, and Oklahoma, and during the past summer he was on the Coit-Alber Chautauqua circuit for eleven weeks. Under the auspices of the National Association he organized thirty-nine new bird clubs.

Of our regular field staff, E. H. Forbush, General Supervising Agent for the New England states, lectured constantly and did an immense volume of other work, as Massachusetts State Ornithologist, much of which is known to all bird-students. He probably accomplished more for the McLean Migratory Bird Treaty Bill than any one man outside of Congress. Winthrop Packard, of Massachusetts, directed the Junior Audubon work for his state, lectured before numerous audiences, and carried on a vast amount of detailed executive effort. William L. Finley, Agent for the Pacific Coast states, lectured all over Oregon and had a most successful lecture tour through the East, addressing twice the National Geographic Society in Washington, D. C., Columbia University in New York, and many other large gatherings. His excursions in the western wilds for moving pictures the past summer were accompanied with many thrills.

Mrs. Mary S. Sage continued her work in the schools of New York state. During the year she spoke to audiences 143 times and thus reached more than 25,000 teachers and pupils.

Dr. Eugene Swope, Ohio Field Agent, gave numerous lectures and surpassed even his former brilliant record in the matter of organizing Junior Audubon Clubs. Arthur H. Norton, Agent for Maine, now has a new active Bird Protective Society, making headquarters in the Museum of Natural History at Portland.

Herbert K. Job, working in 'Applied Ornithology,' found time to do much lecturing and take many moving pictures of birds in addition to supervising the extensive expansion work of the Association's Bird Sanctuary and Experiment Station at Amston, Conn.

More detailed reports of the activities of these effective workers will be published in connection with this report.

AUDUBON WARDEN WORK

One positive and important phase of the Association's work for many years has been the guarding of colonies of water-birds by means of agents employed for the purpose.

With the exception of the Egret colonies, few of these have been destroyed

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by hunters of recent years. Nearly every season, however, storms cause the loss of many young birds and eggs, especially on the low-lying islands of the South.

The past summer was an exceptionally good one for the birds, as no severe storms occurred during the critical period of the colonies. Thus, at Gardiner's Island, N. Y., at least 2,000 Terns reared their young, while, on the neighboring shores, probably 500 Fish Hawks returned to their accustomed summer home. At the end of the season the warden wrote: "Terns and Fish Hawks all left during an easterly storm September 19."

On the Louisiana coast there was some disturbance by fishermen robbing the nests of Gulls and Terns. As the birds again laid eggs no very great damage resulted.

The warden at Dry Tortugas, Fla., states that 400 Sooty Terns, mostly young, lost their lives by the attacks of Man-o'-war Birds and as the result of accidents. When we consider that there were probably 80,000 of these birds nesting on the Island, the mortality may be considered small.

The warden at Gott's Island, Maine, states that many young Herring Gulls died because of cold, rainy weather at hatching-time.

Last year, mention was made that a fish factory had been erected on No-Man's Land, Maine, with the result that the birds were greatly disturbed by the presence of men working at the factory, and by foxes that had been liberated on the island. A representative of the Association who visited the place this year reports, "I found only one Gull egg." Thus by human activity was the largest bird colony on the coast north of South Florida entirely dispersed.

LEVY LAKE, FLORIDA, IN THE HEART OF THE EGRET COUNTRY.
Photograph by T. Gilbert Pearson.

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Many of these birds, however, gathered this year to breed on Ten-Pound Island and Two-Bush Island in the immediate neighborhood. On Metinic Green Island, Maine, there was, formerly, a large colony of Wilson's and Arctic Terns, with a few Herring Gulls. The Gulls have greatly increased in numbers, and the warden reports that the past year they drove away practically all the Terns.

The above are simply a few notes culled from the many reports of the wardens and bird-students who, during the season, have visited the islands. However, these statements cover practically all accounts of unhappy occurrences regarding the birds in question.

One or two of our Egret colonies in Florida were shot into before our wardens went into camp, and some damage was done. It should be borne in mind that many of these rookeries are in very isolated regions, and that some seasons the birds return to their breeding-grounds much earlier than others. It is often difficult to be informed of their arrival sufficiently in advance to give protection as early as it is needed. Otherwise our Egret and Heron colonies seem to have had a good season.

In May the Secretary visited Craney Island in Core Sound, N. C., and here, in a Heron rookery, discovered about 60 Snowy Egrets nesting. Special mention of this is made because of the fact that this colony is located about 90 miles in a straight line farther up the coast than Snowy Egrets have been known to breed for many years. It is clear that this group of birds is an overflow from the protected rookeries farther south. Who knows but what, with continued guardianship, these birds may some spring be seen carrying sticks over the swamps of New Jersey, as they did a century ago!

Reports of the wardens of the various protected rookeries show that in the aggregate something over 1,043,000 water-birds bred in our various protected sanctuaries. This estimate covers 40 species, including Gulls, Skimmers, Terns, Egrets, Herons, Ibises, Pelicans, and a few Guillemots, Eider Ducks, Florida Ducks, Limpkins, and Puffins. Innumerable small birds and various migratory shore-birds also found protection in these guarded areas.

In all, forty-six wardens were employed during the year, and patrol-boats were provided for three additional Government wardens to whom no salaries were paid from the Association's funds. During the year, we placed in commission a new warden patrol-boat on Klamath Lake, Ore. Another patrol-boat, to be paid for by the income from the Mary Dutcher Memorial Fund, is being built for work on the Pelican Island Reservation, Fla.

LIST OF WARDENS ON GOVERNMENT RESERVATIONS SUPPORTED IN PART BY THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES

T. J. Ashe, Key West and Tortugas Reservations, Florida.
Wm. E. Lowe (Assistant), Tortugas Reservation, Florida.
J. J. Furber, Klamath Lake Reservation, Oregon.
We furnish a patrol-boat and pay for repairs.

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Paul Kroegel, Pelican Island Reservation, Florida.
We provide a patrol-boat.
B. J. Pacettie, Mosquito Inlet Reservation, Florida.
We provide engine for patrol-boat and keep up repairs.
Alexander McLean, East Huron Islands Reservation, Michigan.
Albert Matulich, Pass a Loutre West Mud Lumps, Louisiana.
Capt. Wm. M. Sprinkle, Breton Island Reservation, Louisiana.
We furnish and maintain a large patrol-boat and a small gasoline launch
W. Levi Sprinkle (Assistant), Breton Island Reservation, Louisiana.

GENERAL WARDENS

MAINE. Austin B. Beal.....Freeman's Rock.
Edwin B. Bailey.....East and West Egg Rocks, Shark Rock, New Harbor Dry Ledges.
George E. Cushman.....Stratton and Bluff Islands.
Dennis Driscoll.....Little Duck Island.
Frank O. Hilt.....Matinicus Rock.
A. T. Faulkingham.....Forster, Brothers, and Libby Islands.
Joseph M. Gray.....Great Duck Island.
Edgar E. Harlow.....Moosehead Lake.
John E. Purlington.....Cone Island.
Fred E. Small.....Old Man's and Double Shot Islands.
Ernest A. Young.....No-Man's Land, Two-Bush and Ten-Pound Islands, and Matinicus.
Elisha G. Bunker.....Cranberry, Duck, Baker's and Bare Islands.
Willis E. Snow.....Metinic Green Island.
MASSACHUSETTS. Capt. G. B. McRae...Woepecket Island.
MICHIGAN. Oliver St. Andre.....Passage Island, Gull Rock.
NEW JERSEY. Jarvis B. Rider.....Sandy Beach.
NEW YORK. Irving L. Edwards.....South end of Gardiner's Island.
Henry O. Rackett.....North end of Gardiner's Island.
NORTH CAROLINA. H. A. Bragg.....Glands, Royal Shoal, Leggett Lump.
VIRGINIA. J. R. Andrews.....Cobb's Island, Big and Little Easters.

EGRET WARDENS

FLORIDA. Oscar E. Baynard, Supervising Warden.
Walter Thomas.....Corkscrew Rookery.
J. M. Jackson.....Spruce Creek Swamp.
J. W. Malphurs.....Orange Creek, Fowler's Prairie, Brean Lake.
M. N. Gist.....Orange Lake Rookery.
D. M. Brooker.....Bird Pond.
S. Elliott Bouknight.....Black Gum Swamp.
R. M. Hunter.....Staggers Prairie Rookery.
J. W. Wallace.....Wallace Bay Rookery.
M. J. Boyd.....River Styx Rookery.
J. T. Shaw.....Waldo and Gainesville Rookeries.
A. L. Jackson.....Perhaps Bay Rookery and Tamaka Swamp.
Frederick H. Ford.....Montgomery's Prairies, Guthrie's Prairie, and Bundy's Lake.
L. Ashburner.....San Sebastian River Islands.

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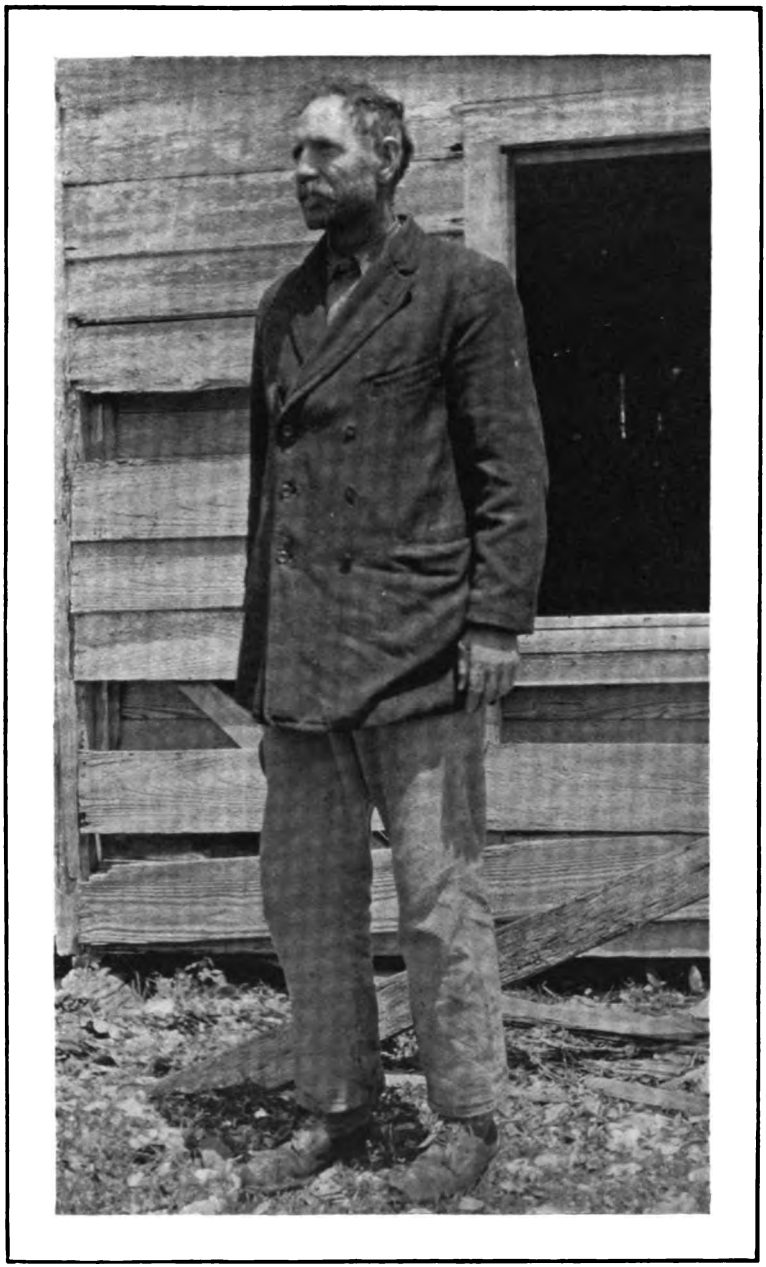

JULIAN BROWN, WARDEN OF CRANEY ISLAND ROOKERY, NORTH CAROLINA.
An officer of intelligence and rare devotion to his duties.
Photograph by T. Gilbert Pearson

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GEORGIA. Henry W. Manning.....Big Buffalo Swamp Rookery.
MISSOURI. R. L. Hall.....Red Sea Overflow.
NORTH CAROLINA. Julian Brown.....Craney Island.
SOUTH CAROLINA. R. F. Grimball.....Buzzard's Island.
William Elliott.....Beaufort and vicinity.
Sandiford Bee.....Buzzard's Island.

MISCELLANEOUS FACTS

During the fiscal year we have published five new Educational Leaflets, written by the Secretary. These first appeared in BIRD-LORE and later were issued separately. They are: Leaflet No. 89, Black-necked Stilt; No. 90, English Sparrow; No. 91, Sage Grouse; No. 92, White-throated Sparrow; and No. 93, Phœbe. Our Department in BIRD-LORE occupied 173 pages. A new circular, No. 5, on 'The Department of Applied Ornithology,' was added to our list. Among the miscellaneous publications issued during the year were: Circular No. 1, 20,240; No. 2, 20,000; No. 3, 20,390; No. 4, 15,300; No. 5, 5,500; a four-page announcement to teachers, 85,050; and Audubon Educational Leaflets (four pages of descriptive text, a colored plate, and an outline drawing), 2,741,000. Of office supplies, such as letterheads, record cards, order blanks, etc., and various publications for circularizing, 829,000 were used. Printed envelopes of various sizes to the number of 361,000 were required. Large quantities of wrapping-paper and twine were needed, also 8,634 cartons and many wooden boxes.

The Association also published linen posters calling attention to the value of birds in wartime and urging the public to report violations of the bird-protective laws. Of these 'war' notices 50,000 copies were issued in English and Italian and 25,000 copies in English alone.

The motion-picture films rented by the home office have been in constant demand and have been shipped to many parts of the country. The nominal rental charges provided an income amounting to $117, and orders are now on file for future reservations.

In addition to the seven reels already on hand, Mr. Job has secured another thousand feet of film this season. This includes many interesting subjects, such as Geese, Swans, Ducks, Terns, Martins, Duck Hawks, etc. It also shows the work at the Association's Bird Experiment Station, at Amston, Conn., with pictures of Tree Swallows, Wrens, and other birds, and the propagation of Quail and water-fowl. Our entire set of films probably will be rearranged, including these new sections, thus making each reel more interesting and complete. The revised list will be printed in BIRD-LORE. We have also received as a gift 700 feet of splendid film from one of our esteemed members, Dr. Thomas S. Roberts, of Minneapolis.

The lantern-slides made and colored by the Association are very popular with bird-lecturers. During the past fiscal year the sale of slides amounted

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Shooting on this Property is Prohibited

WAR

PROTECT THE BIRDS AS A WAR MEASURE!

The food destroyed in America by insects and small rodents would feed the people of Belgium! Birds are the great natural enemies of these pests. The laws of this State and of the Nation protect insect-eating birds, but many are being shot wantonly and for food. Report violations to the nearest game warden or to the address given below.

PROTEGGETE GLI UCCELLI COME MISURA DI SICUREZZA PER LA GUERRA!

Il cibo distrutto in America dagl'insetti e dai piccoli animali rosicanti basterebbe per nutrire il popolo Belga! Gli uccelli sono i nemici naturali più accanniti di questa peste d'insetti. Le leggi di questo Stato e della Nazione proteggono gli uccelli insettivori, ma disgraziatamente molti vengono uccisi maliziosamente o per cibo. Notificate queste violazioni al guardia-caccia più vicino oppure all'indirizzo dato qui sotto.

National Association of Audubon Societies

1974 BROADWAY :: :: :: NEW YORK CITY

THE ASSOCIATION'S LINEN "WAR" POSTER SIZE 9 x 15 INCHES.
These are posted in great numbers in every state in the Union.

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to about $500. We now have 1,086 slides on hand, ready for delivery, and 393 unfinished ones in stock, ready for coloring.

Bird-protective exhibitions have been numerous this season and have been very successful in arousing local interest in bird-study. The office of this Association responded to many requests for help. We were able to assist bird clubs, public libraries, schools, and other organizations. Loan exhibits, consisting of charts, bird-boxes, feeding-devices, etc., and great quantities of printed matter for distribution, were sent to the following places: New York City; Brooklyn, N. Y.; Forest Hills Gardens, L. I., N. Y.; Ridgewood, N. J.; Newton Centre, Mass.; Pittsburgh, Pa.; Cuyahoga Falls, Ohio; Fort Wayne, Ind.; Holland, Mich.; Durham, N. C.; and Montgomery, Ala.

The home office of the Association, and also our branch offices in Boston and Cincinnati, continue to be extensive information bureaus. The questions received are of great variety, most frequent inquiries including such subjects as identifications of birds seen; construction of bird-boxes, feeding-devices, and bird-baths; how to form bird clubs and to establish sanctuaries; how to combat bird-enemies, such as cats, English Sparrows and Starlings; what bird-books to buy; what shrubs to plant to attract birds; information on game-laws; whom to engage as an interesting lecturer; and how to get a position as bird-lecturer. More than forty people applied to us for positions as field agents during the year. Other questions often received pertain to bird-protective exhibits, bird-day programs, bird-house contests and bird-plays for children. Other correspondents ask advice on the selection of cameras for nature photography, stereopticons, bird-glasses, and other such apparatus. Many violations of game-laws are reported, and the number has much increased since the 'war' posters were distributed. Occasionally we receive an appeal that requires particular consideration. Often we are asked to prescribe for sick Canaries. One letter asks us to locate the owner of a stray Carrier Pigeon that had been found in an exhausted condition. Some wanted to know where good shooting-grounds in the South could be found, and one asked us to recommend a good collecting-gun! One lady 'phoned the office to send people at once to remove a large mantelpiece in her flat and release an English Sparrow that had fallen behind it. She warned us that the mantel must carefully be replaced and without injury.

FINANCES

During the year the Association enrolled one Patron ($1,000) and 111 Life Members at $100 each. The funds thus received, with $325 in gifts, makes a total of $12,425 added to the permanent Endowment Fund of the Association.

Within the past few days the Finance Committee has invested $10,000 of this amount in a subscription for Second Liberty Loan Bonds.

The sustaining membership, the fee for which is $5 annually, has increased

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during the year from 3,024 to 4,022. The total income of the Association for the year amounted to $144,089.21, which is something more than $30,000 greater than the income for the previous year.

NEED OF A BUILDING

And now, in concluding this report, I want to lay strongly on the minds of the members and supporters of this Association the very great need of a suitable home and headquarters for our National work, for if ever a Society needed a comfortable building of its own it is this one. At the present time we are cramped into six offices of a regular office building on Broadway. As every effort is made to carry forward the Association's work as inexpensively as is consistent with getting good results, the Board has not felt justified in paying the high rents necessary to secure sufficient space to be suitably housed.

Furthermore, there is little chance for expansion and no opportunity for developing and maintaining attractive exhibition rooms, which we should by all means possess.

The development of our organization has now reached such a phase that our activities should be focused in a national headquarters—a great clearing-house for the exchange of ideas. Our present facilities provide only for our office-work. We should have a commodious building in which those interested in the protection of the wild life could meet face to face at all times and discuss the great problems on conservation which daily confront us.

There is an imperative need for a building where the workers in our field may gather for counsel and inspiration, a social center, if you please, from which our efforts may radiate to all parts of the world. We have not at present even an adequate room for the reception of members, friends, and visitors.

Such a building as some of us have longed for and dreamed of for years should contain abundant office space and storage rooms—should have rooms for permanent exhibits of bird-houses, feeding-devices, and bird-attracting apparatus. Samples of all types should be on permanent exhibition. Here we should have exhibitions of shrubs and trees that produce fruit and berries that people may plant in sanctuaries or about their homes to provide food for birds. We should have a display of pictures, transparencies, and other illustrations that might be studied by people desiring further information on the subject of our wild life.

The modest library on conservation and natural history which we have been building the past few years should vastly be expanded. There is no such thing as a conservation library in America, and this Association is the logical force that should acquire and maintain such a library for the rapidly increasing army of bird-students. It would be of great help today, and the material that could now be gathered and preserved would be of vast interest to those who follow us in the generations to come.

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We should have a museum where all the birds of the world used for millinery trade could be exhibited and the trade product displayed and the trade name attached. We should have comfortable quarters and a rest-room for members and friends who visit the city, with an assembly hall where we could arrange for lectures and to which we could invite representatives of wild-life protective associations to hold their conventions.

In many other ways such a building would be of inestimable value to the cause and would greatly tend to strengthen our efforts by bringing us in closer touch with the public.

Enrolled among our members are hundreds of people, any one of whom could easily provide the funds for building and equipping such a home, and there is no doubt but that there are thousands of members who would be glad to contribute something toward such an enterprise. An attractive, commodious home containing provisions for the opportunities for service outlined above would immeasurably increase the influence of the Association and the cause we represent. With most profound earnestness, therefore, do I wish to lay this matter before you in the hope that it may reach the attention of some one or more people who may before long make possible the realization of this cherished hope.

CANADA GEESE AT BELLPORT, LONG ISLAND, NEW YORK.
Photographed April 1, 1917, by Dr. Frank Overton.

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REPORTS OF FIELD AGENTS

REPORT OF EDWARD HOWE FORBUSH, FIELD AGENT FOR NEW ENGLAND

The interest in legislation for the protection of birds in New England has been largely transferred to Washington, in the hope that through the treaty with Great Britain, under which migratory birds of the United States and Canada are protected, we might get efficient federal protection of migratory species. Your agent has done what he could toward the passage of an enabling act, under which the provisions of the treaty might be enforced. It is now well known that thus far this act has passed the United States Senate only and has failed in the House. Let us hope that it may be passed by the House at the next session.

During the year your agent has delivered about fifty lectures. At a meeting of the Massachusetts State Board of Agriculture at Springfield, Mass., a lecture was given in the auditorium to over 3,000 people, at which motion-pictures furnished by the National Association, and taken by Herbert K. Job, were exhibited, to the delight of the audience.

In April, 1917, an investigation of the present condition of the Heath Hen was instituted. On my inspection of the reservation on Martha's Vineyard in 1916, fully 800 birds were accounted for, and the superintendent of the reservation believed there were 2,000 on the island, but on May 12 of that year a very destructive fire swept that part of the island devoted to the birds, and in April, 1917, less than 50 pairs of birds could be accounted for. The fire of 1916 occurred just as the birds were beginning to nest. Probably very few Heath Hens bred that year, and many of them may have been destroyed by the fire, although few remains were found; but the fire swept away the cover so that they were exposed on the burned and blackened ground to the attacks of their enemies. It destroyed a large part of their food and ruined the prospect of an acorn crop for the winter, and then in the autumn an unprecedented flight of Goshawks came to the island from the North and undoubtedly destroyed a large share of the remaining birds during the winter.

The superintendent, being required to patrol the entire island to enforce the game laws, could spend only a part of his time in the actual protection of the Heath Hen. During a visit to the island in October, 1917, very little evidence was found of the rearing of young birds this year, and from all appearances the Heath Hen now is rapidly moving toward extinction. A few birds have been sent to Long Island, and some to Wenham, Mass., but in neither of these localities have they reared any young. Nevertheless, if the few remaining birds survive, the winter conditions will be better for them on the island than for several years. The fire has killed most of the large trees about the reservation, and the resulting low growth is exactly what the birds seem to

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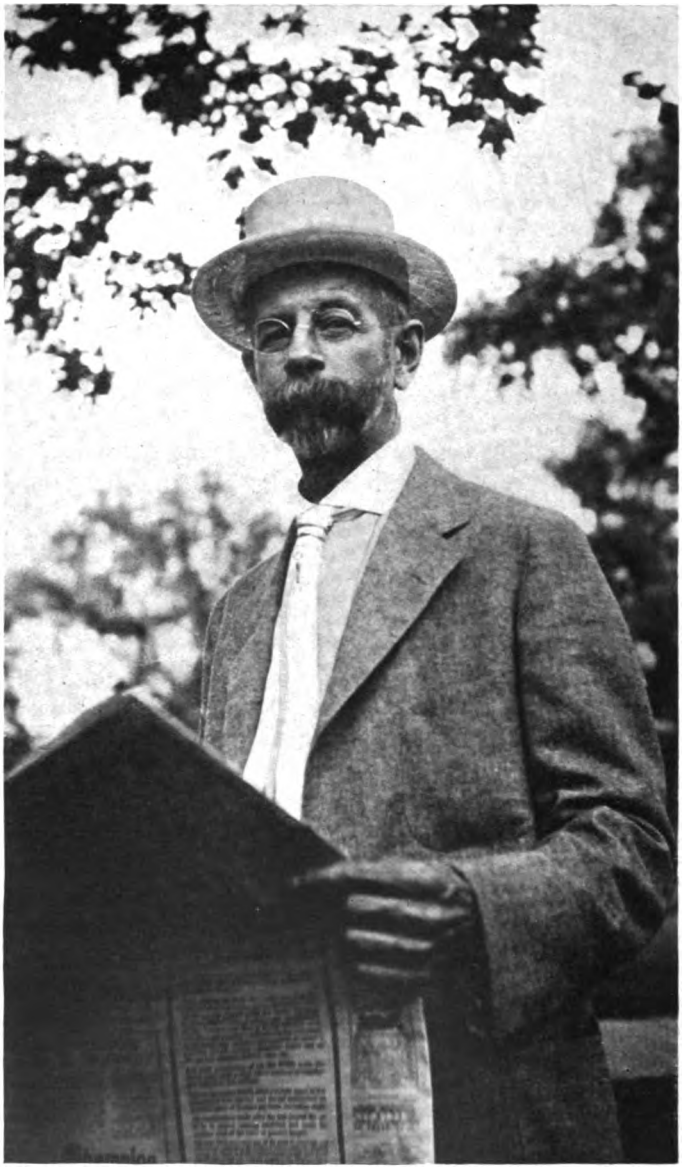

EDWARD HOWE FORBUSH.
State Ornithologist of Massachusetts, and New England Agent for the National Association.

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thrive in. The new sprouts have grown up so as to form sufficient cover; there is a good coating of dry leaves on the ground; and probably there will be a plentiful supply of food for the few birds that are left. Just now, if a first-class man can be placed in charge of the reservation and can give his entire time to the protection and propagation of the Heath Hen, and if any birds survive the winter, the chances are that next summer will see a substantial increase.

Much time was spent during the summer in an examination of the Massachusetts colonies of sea-birds. The colonies of Terns are doing well, with the exception of those which are particularly exposed to the attacks of cats and skunks. The Least Tern, apparently, is in danger of extirpation from New England. The colony formerly established on Katama Beach, near Chappaquiddick, was fairly safe so long as it was protected by a deputy commissioner of the Fish and Game Commission, who took a special interest in it, and so long as the inlet through the beach remained open, but when the inlet closed, the cats from Chappaquiddick made those colonies their hunting-ground. Later, the warden, who had trapped the cats, left the service of the Commission. Now this colony is practically extinct, or has moved farther up the beach where there is still a small colony.

A few years ago the Least Terns on Martha's Vineyard probably numbered about 400 birds. All the colonies on the west end of the island this year seem to be extinct, and probably there were less than fifty pairs of birds left on the island at the end of the breeding-season. There are a few still remaining on Cape Cod, but your agent was unable to visit their breeding-place this year. The Fish and Game Commissioners propose now to place deputies on several of the principal breeding-grounds of the Terns during the nesting-season, that they may be protected, not only from summer visitors, but from their natural enemies. Possibly, in this way the Least Tern may be saved.

Late in the summer a visit was made to Mr. Job at Amston, Conn., for consultation in regard to the details of his work. A report of the interesting and useful work done at this station appears elsewhere.

In closing this brief report your agent, as an unsalaried officer, cannot refrain from calling attention to the remarkable success of the Association in its chosen field and the magnificent support it has received during the year just passed in the midst of the excitement and distractions of the entrance of our country into the world-war. This success is due in part to the recognized value of the work in which the Association is engaged, but mainly to its excellent management. The directing board of the Association is to be felicitated on having chosen the right man as secretary and executive officer, and on having given him wise counsel and consistent support. His absolute loyalty to the cause and his ability in management have never produced greater results than in this year, which, because of the demands of the war, has been one of discouragement to many worthy organizations. Under the most trying and de-

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pressing conditions, Secretary T. Gilbert Pearson has again vindicated the judgment of the Directors by securing the sinews of war and bringing the work of the Association up to its highest point of efficiency under trying circumstances. It is only fair to say, however, that the Association's opportunities for exceeding usefulness in this field continually outrun its resources.

REPORT OF WINTHROP PACKARD, FIELD AGENT FOR MASSACHUSETTS

During the past the Massachusetts agency has found a new field for activity in the Junior Class work. This work, hitherto carried on by the State Society, has been increased. In all, 519 classes, with 10,802 members, were the result. The campaign for the coming year has already started, and we are looking forward confidently to a still further increase of junior membership. Working persistently throughout New England, your agent has been able to add 161 new sustaining members to the Association's list, 55 more new members than were thus obtained last year. The office, which is recognized as headquarters for the bird-protection movement throughout New England, has been able to give advice and assistance in very many ways. Some fifty lectures were given by your agent before schools and societies. At the State Bird Day held at Amherst in conjunction with the State Society, the State Board of Agriculture, the State Grange, and the Agricultural College, an exhibition was made of the Association's literature and bird-protection material, and your agent lectured on the needs of bird-protection and the work of the Association. The Association was also represented at a number of local Bird Days throughout the state.

A good deal of the work has consisted in giving definite advice and assistance in regard to bird-protection, both at the office and in the field. The Association has thus been of service to large estates, to communities, sanctuaries, and to very many people who protect the birds in an effective if less extensive manner.

At the coming of the cold weather the usual request that the birds be fed was sent broadcast throughout New England and received an earnest response. Your agent has done what he could to promote the cause of bird-protection in legislation and has been of assistance wherever he felt there was need. He wishes to express his appreciation of the vital assistance and encouragement of the New York office, without which he feels his efforts would have been far less effective.

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REPORT OF EUGENE SWOPE, FIELD AGENT FOR OHIO

One proof that the National Association has succeeded in awakening a wide and permanent public interest in the cause for which it has so faithfully worked is found in the ever-increasing number of high-school compositions, graduation essays, club papers, and the like that are nowadays based upon bird-protection and the Audubon movement.

This fact also points to the growing need for a book or pamphlet which should contain the essence of all Secretary Pearson's annual reports and Mr. Ingersoll's sketch of the origin, progress, and accomplishments of the Association, together with other material.

The facts contained in such a book would become the basis of many a club

CAN OHIO AFFORD TO BREAK FAITH WITH ITS CHILDREN?

A LARGE SERIES OF EFFECTIVE CARTOONS BY IRELAND WAS USED IN THE COLUMBUS EVENING DISPATCH TO AID IN THE FIGHT FOR QUAIL PROTECTION IN OHIO.

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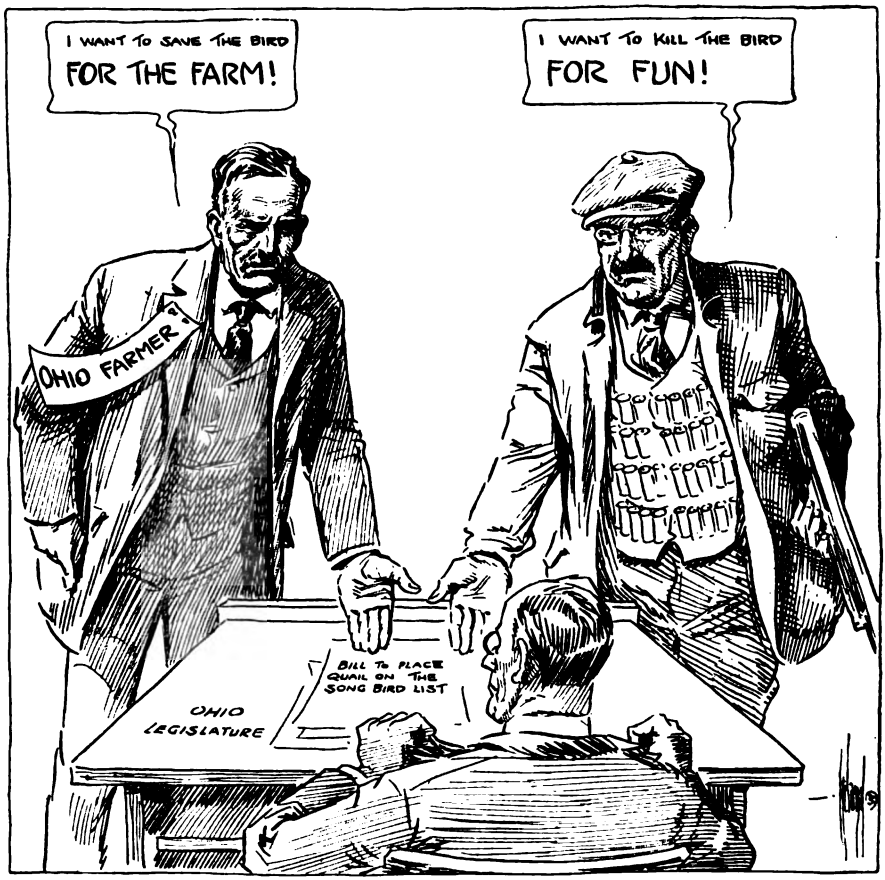
paper and graduation essay and thus aid in further impressing upon the public mind the value of bird-study and protection. Your agent has been forced to this conclusion through the great number of requests for just such information. This new and growing interest in the Middle West is in no way peculiar to this section.

This year the most striking legislative act favoring bird-protection was that of placing Bob-white on the song-bird list. All Audubon and conservation interests of the state favored giving continued protection to the introduced birds as well as to the diminishing native ones. The Grange interests of the state, feeling that they had suffered too long at the hands of trespassing hunters, and being wholly out of sympathy with the Fish and Game Commission, but having Governor Cox on their side as well as holding the balance of legislative

THE LEGISLATURE IS THE JURY



ONE OF THE IRELAND CARTOONS USED IN THE OHIO QUAIL FIGHT.

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DR. EUGENE SWOPE,
Field agent for Ohio, in his garden watching a Chipping Sparrow feed her young.

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power, decided to make a clean sweep this time instead of temporizing as formerly. They passed the bill in both Houses all but unanimously. Sportsmen's leagues and the Fish and Game Commission officially fought the bill, but many sportsmen individually worked for it, as well as a few state wardens. The economic value of the Bob-white was the strongest argument in its favor and was generously used by the protectionists. This plainly showed that Ohio farmers now realized the worth of the living bird over that of the dead one.

Many of the leading Ohio papers were strongly in favor of giving the Bob-white permanent protection. These and numerous other papers of the state have been liberal in space devoted to the Audubon cause and have freely published all reports and news items sent them by your Field Agent. Their help in the cause of bird-protection is highly appreciated in the state.

The Cleveland Bird Lovers' Association, the Columbus Audubon Society, and the Ohio Audubon Society are the progressive organizations of the state and are constantly widening their sphere of influence. The Ohio Society proposes, the coming season, to specialize in a fight against the cat.

Conducting the Summer School Bird Study Class at the Florida State University during July was one of the most interesting features of the year's work. The class membership consisted of teachers who were taking extension work for professional credits. They applied themselves as diligently to bird-study, both afield and in classroom, as to any other subject of mental training and pedagogical equipment. They were as ready at 4 A. M. for a scouting trip as at 7 P. M. for a lantern lecture. It was the unanimous opinion of the class that one month is too short a time to do justice to the subject. No doubt the Summer School will in the near future have to provide for a full term course for this new item of education.

The records in Ohio, June 1, show that 1,121 Junior Classes had been formed during the year, with a membership of 22,249. This is mentioned as evidence that your agent increased his activities along all lines, since this record surpasses all former ones.

REPORT OF ARTHUR H. NORTON, FIELD AGENT FOR MAINE

The Legislature was in session from the first of January well into April, requiring a long period of vigilance; many measures were introduced to secure longer open seasons and spring shooting, together with two separate bills to secure bounties on Crows. It is most gratifying, and significant of good results of past efforts, to be able to report that the defeat of these measures was easy, owing to popular opposition and to the fact that legislators of leading influence promptly appeared in defence of the birds. A well-supported bill to require a resident hunters' license again was overwhelmed by popular opposition. The law prohibiting the hunting of water-fowl with motor-boats on the tidal waters

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of the state was made general. Protection for Eagles (which had been inadvertently dropped during a revision of the laws) was restored. The laws relating to the taking of migratory game-birds was made to conform to the revised Federal law, thus placing Maine in the ranks of the states upholding that law.

During the month of February a pair or more of Bald Eagles resorted to the Back Cover in Portland, at the mouth of the Presumpscot River, between Portland and Falmouth, feeding on the dead and sickly, and possibly some healthy, Black Ducks, which bed in these places through the winter to the extent of thousands. All the birds were near and in plain view of the numerous trolley cars which traverse these sections. Many sportsmen, bird-students, and interested persons resorted daily to the two bridges to enjoy the privilege of observing these magnificent birds at close range, as well as the great congregation of Black Ducks and Whistlers. Some viewing the Ducks that were being eaten, which might afford a few extra targets another open season, complained to the Commissioners of Inland Fisheries and Game that the Eagles were doing large damage. Sensational reports under such captions as "Eagles Eating the Back Bay Ducks" and "Battles in the Air" had appeared in the local papers. The Commissioners issued permission to have the Eagles destroyed and notified Warden Cushman of this action. Mr. Cushman, who is also an Audubon warden as well as a state warden, reported to your agent, who immediately communicated with the Chairman of the Commission, presenting the facts in the case, and the Chairman, Mr. Harry B. Austin, at once withdrew the permission. Careful watch of the Eagles was kept by your agent and Warden Cushman until the ice broke up, allowing the Ducks to scatter widely, but neither of us was able to witness the capture of a Duck or the attempt of the Eagles to capture one. A few sickly Ducks, unable to fly, were detected in the flock.

No inspection of the large colonies of birds which breed in the state was called for this year, and very little field-work was done. It was observed that a large colony of Terns returned to the Outer Green Island, in Casco Bay, to breed. A large colony of Black-crowned Night Herons, among which a few Great Blue Herons were breeding, was visited in Casco Bay. This is a colony not previously reported.

Early in the winter a local Audubon Society, The "Cumberland County Audubon Society," was organized in Portland with a gratifying membership. This resulted in uniting the general interest in feeding and otherwise attracting birds, and in bringing together a large number of bird-lovers for mutual consideration of birds and their needs.

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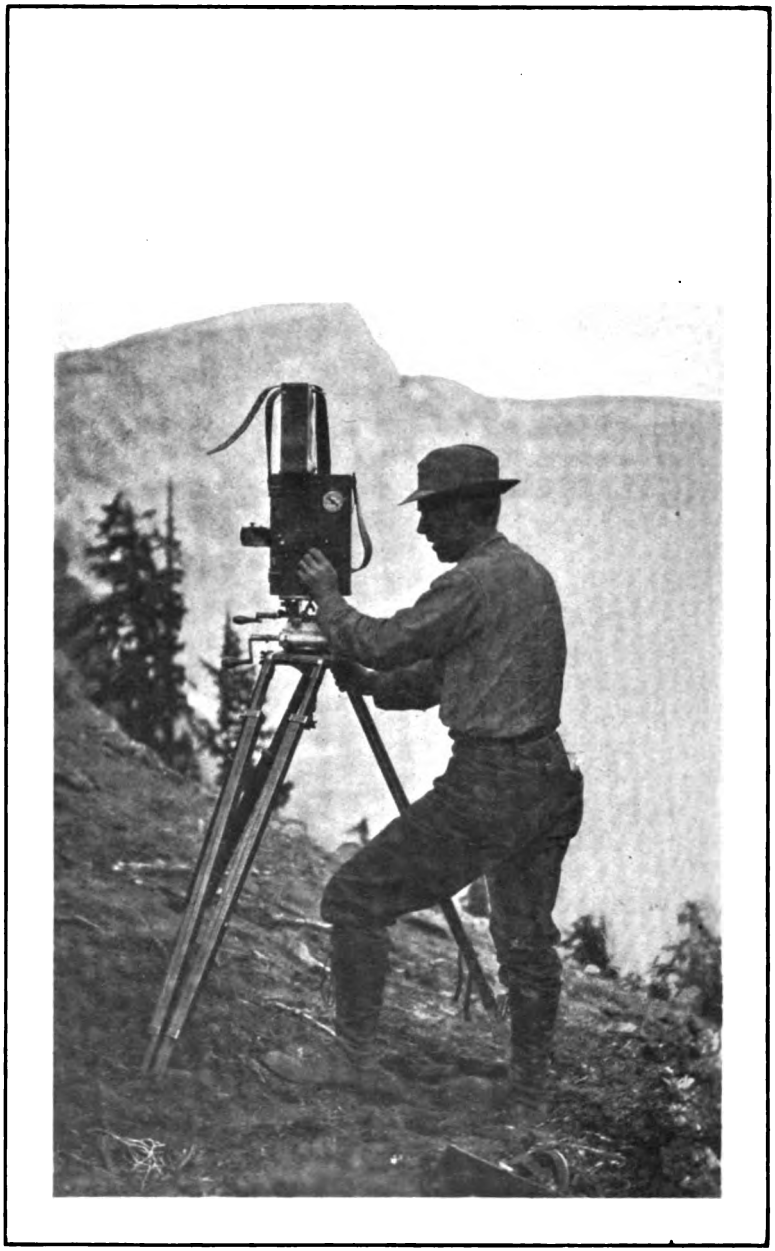

WILLIAM L. FINLEY,
The National Association's agent for the Pacific Coast, taking moving pictures on the verge of Crater Lake.

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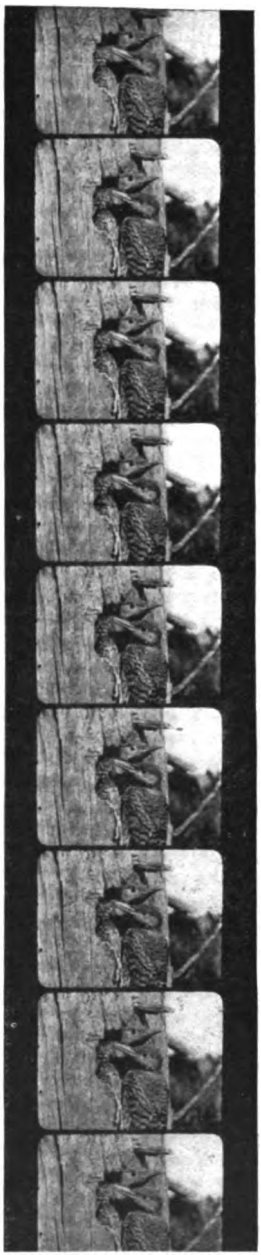
REPORT OF WILLIAM L. FINLEY, FIELD AGENT FOR THE PACIFIC COAST STATES

URING the early part of May, in company of R. B. Horsfall and Stanley Jewett, I inspected the bird colonies on Klamath Lake Reservation and spent four days getting moving-pictures of Sage Grouse during the strutting season. We discovered a place at the lower end of the lake where the Sage Cocks were accustomed to come very early in the morning and late in the afternoon to perform their interesting dance. This place was an open wash of 10 to 12 acres between the sagebrush and the edge of the lake.

By building a sagebrush blind and entering with the moving-picture camera before daylight, we succeeded in getting good pictures of the performances of these birds. During the spring season, while the females are on the nest, it is the custom of the males to come in for miles around to an open place that might be called an outdoor dance-hall. At first the birds were very wary about coming anywhere near the blind, but after the third day they became accustomed to it, and we had one bird as near as 25 feet from the camera. These pictures furnish a very important record of the life history of this rapidly disappearing bird.

Field-work has been carried on during the past year in conjunction with Stanley Jewett of the Biological Survey with the idea of completing a coöperative state and federal report on the birds and animals of Oregon.

During the months of June and July an extensive trip was made throughout eastern Oregon. Nearly a month was spent in the Malheur Lake country and in the Steins Mountains to the south. Far out in the wide, sagebrush country, about 50 miles from the nearest town, we came to an old deserted homesteader's cabin. From a general view of the surroundings, this was the last place in the



FINLEY'S FLICKERS.

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BOBCAT AT BAY ON THE LEDGE OF A CLIFF IN SOUTHEASTERN OREGON.
Photograph by H. T. Bohlman.

PHOEBE KATHERINE FINLEY, TAMING TWO BABY AVOCETS.
Photograph by Irene Finley.

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TRANSPORTING FINLEY'S MOVING-PICTURE OUTFIT IN THE DESERT OF SOUTHEAST OREGON.
Photograph by H. T. Bohlman.

FINLEY WATCHING JEWETT PLAY WITH YOUNG SWAINSON'S HAWKS.
Photograph by H. T. Bohlman.

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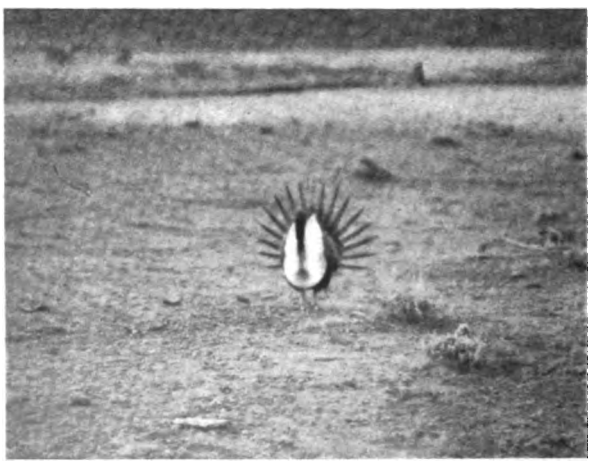
world I would expect to find any interest in birds, yet here was a striking example of how widespread bird-protection has become. On one end of the old shack were two bird-houses and several others nearby, one on the top of the gate-post.

Among the interesting wild animals and birds which we had an opportunity to get moving-pictures of on this trip were Porcupines, Badgers, Skunks, Bobcats, Ravens, Hawks, as well as wading birds and other water-fowl about Malheur Lake Reservation.

A little over a year ago, some promoters set on foot a plan to drain Malheur Lake and do away with our greatest wild bird reservation. Similar plans have also been proposed concerning Klamath Lake Reservation. During the past summer, Dr. George W. Field, of the Biological Survey of the Department of Agriculture, made a careful study of conditions in and about these great reservations and collected valuable data to be used in thwarting these promoting schemes.

The new Audubon patrol boat, "Grebe," which was purchased by the National Association from the income of the Mary Dutcher Memorial Fund, was completed during the past summer and has been in use on Klamath Lake Reservation under the direction of the warden, J. J. Furber. This boat was specially built for speed and light draught, so it can be used in different parts of the lake, even when the water is low.

During the past year, 103 lectures, illustrated, as a rule, with moving-picture reels, have been given by your agent in various parts of Oregon, Washington, and through the East. Two of these lectures were given by special request at the sessions of the Oregon and Washington Legislature and another at the meeting of the National Education Association held in Portland in July.



SAGE COCK DANCING. AN EXTREMELY RARE AND INTERESTING SIGHT
Photographed by Finley after waiting four days in a blind for the purpose.

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REPORT OF HENRY OLDYS, SPECIAL FIELD AGENT

During the period of February 25 to March 19, I was engaged for the National Association in the work of forming Junior Audubon Classes in Maryland and West Virginia. Twenty-one towns were visited and 84 talks were given, 4 of which were addressed to the general public, 56 formal talks to gatherings of pupils and teachers in schools, and 24 ten-minute informal talks to different classes. The number of schools visited was 40, and the total number of persons (mostly pupils) addressed was 10,525.

In several towns I found much preëxisting interest, due to previous visits of representatives of the Association. This interest was occasionally manifest in the formation of 1917 classes prior to my visit, usually owing to the presence of one or more energetic and enthusiastic teachers. More often, however, there was a diminishing interest, showing clearly the necessity for covering the same ground year after year in order to keep the work up to the desired standard, unless, indeed, some such annual stimulant as is here recommended be used. The response was very satisfactory. The new feature, the "Audubon Pocket Bird Collection," proved very attractive.

REPORT OF HERBERT K. JOB, DEPARTMENT OF APPLIED ORNITHOLOGY

DURING the past year, work has been continued along the lines previously instituted. Personal inspections of various estates have been made and assistance given in carrying out measures to attract or propagate wild birds. Adopting plans suggested by this Department, Winthrop Cowdin has made his large property at Mt. Kisco, N. Y., a bird sanctuary. The same has been done with the extensive Pagenstacher estates at Cornwall-on-the-Hudson, N. Y., on the slopes of the famous mountain, Storm King. On the Harriman estates, Arden, N. Y., the experiments initiated last year in conjunction with this Department have had excellent initial results in the breeding and rearing of Bob-whites, Ruffed Grouse, and wild Ducks. The grounds of the Castle School, Tarrytown, N. Y., have been visited and made a bird sanctuary. Plans were also carried out on the estate of Tracy Dows, Rhinebeck, N. Y., following an inspection. Bird-attracting work was instituted at Roslyn, L. I., on the estate of S. G. Rosenbaum.

Extensive correspondence has been carried on throughout the year with many inquirers after practical information. In many cases the Bulletins of the Association have also been sent, and practical work for bird-increase has thereby been undertaken in many quarters. Public lectures also have frequently

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HERBERT K. JOB IN THE LOUISIANA MARSHES.
Photograph by T. Gilbert Pearson.

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ENTRANCE TO THE AMSTON EXPERIMENT STATION.
Photograph by H. K. Job.

been given, both with lantern-slides and with motion-pictures. A new illustrated lecture circular has been published and is being sent out.

A considerable number of new bird photographs have been made for the Association, and also a number of new film subjects. Among the latter are the following: Large concourses of wild Geese and Swans on the coast of Virginia, taken on a trip for the U. S. Bureau of Biological Survey, in March, 1917; a large Tern colony on an island off the coast of Connecticut; a Duck Hawk feeding its young on a precipice; also a considerable series showing work with wild Ducks, Quail, and small birds using nesting-boxes at Amston.

Considerable time and hard work have been given to the establishment and development of the new Bird Experiment Station of the Association at Amston, Conn., mentioned in the last report. The fencing in of the water-fowl pond and swamp and the building of the aquatic house, under supervision of this Department, were completed late last autumn. During the ensuing winter and spring careful search resulted in the acquisition of breeding-stocks of fifteen species of water-fowl, namely, Canvasback, Redhead, Ring-necked Duck, Greater and Lesser Scaups, Black Duck, Wood Duck, wild Mallard, Pintail, Baldpate, Gadwall, Blue-winged and Green-winged Teals, Mandarin Duck,

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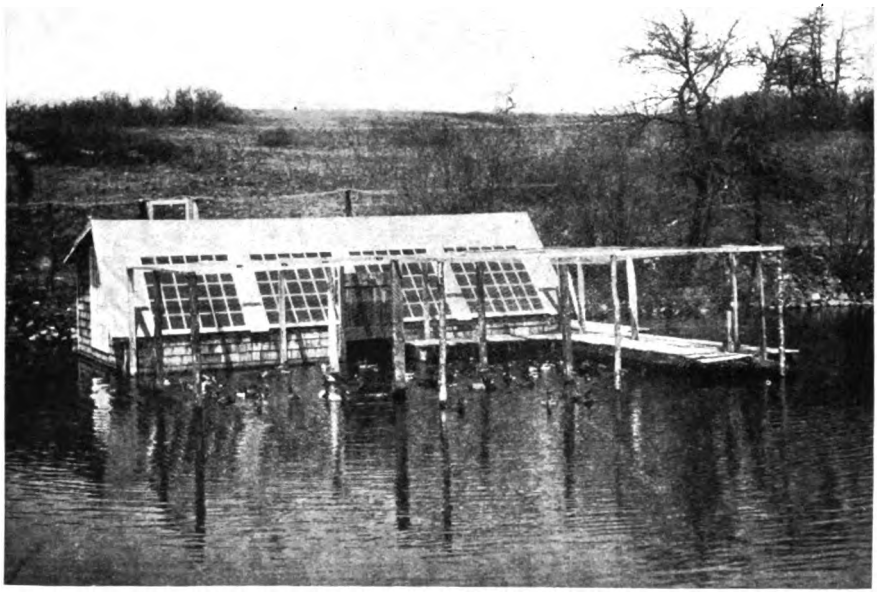

WILD DUCKS AT AQUATIC WINTERING-HOUSE, AMSTON BIRD SANCTUARY AND EXPERIMENT FARM.

and Coot. The aquatic house proved ideal for the wintering of all Ducks, even the most susceptible to cold, such as the Blue-winged Teal. With outside temperature down to 15 degrees below zero, and with no artificial heat, the water of the swimming-pool never even skimmed over, and the Ducks came through the winter in fine condition. Newly captured wild Ducks, as most of these were, do not breed the first season under restraint. Ours had a good summer in the pond and swamp, and are now in good shape for the progress of the experiment. The Wood Ducks, however, reared in captivity, all laid eggs, and some young were raised.

Experimental work on a small initial scale was carried out with three kinds of Quail. The eggs of the Scaled or 'Blue' Quail proved infertile, but broods of Bob-whites and of California Quail were reared to maturity. Late in September these began to leave the rearing-field, and are now, in October, ranging by day over the adjacent grainfields and farmland, but at a regular time each night they fly back over the high wire fence, are fed by the keeper, and roost with the bantam foster-mothers in the accustomed place, the California Quail up in a clump of alders. These latter are said to have been acclimated to severe cold on mountains in Nevada, and also, being quite docile, to locate and stay about shrubbery in gardens and estates, even in the heart of towns and cities. Experi-

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ments will be continued to see if they cannot be utilized for ornamental and other purposes on farms and estates in the East.

Extensive experiments were also begun with nesting-box work to attract small birds. Bird life is abundant at Amston, and the boxes were well used by Bluebirds, Wrens and Tree Swallows on the farming land, but in the immediate village all too much by English Sparrows. For the useful species, boxes nailed at the top of 2 x 4-inch timbers 6 feet long, these spiked or screwed to fence-posts bordering fields, entirely in the open, were decidedly the favorite locations. Moreover, all these species seemed to prefer boxes with larger entrance-holes than they are supposed to need. Bluebirds chose Flicker-size boxes in preference to those with the 'proper' apertures nearby. This winter certain changes will be made to suit the birds, and many more boxes will be placed on fences, as above, in an effort to see if considerable numbers cannot be attracted, especially the Swallows.

Experiments are also being started in attracting birds by the planting of natural foods. For land-birds, various trees and shrubs have been set out. In our large lake on the tract, plantings have been made of various Duck-food plants, such as wild celery, wapato, blue duck millet, potamogetons, and other kinds.

AUDUBON HOUSE, ON THE ASSOCIATION'S BIRD SANCTUARY AT AMSTON, CONNECTICUT.

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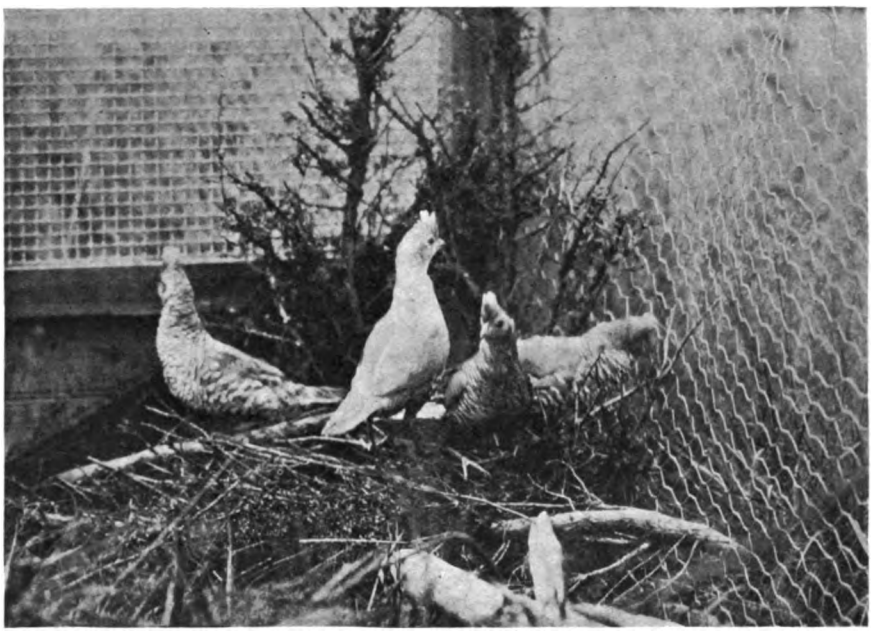
Further to promote the new Experiment Station work, Mr. Charles M. Ams, the owner of the tract, has generously put at the disposal of the Association a comfortable two-story residence, furnished throughout, now known as the 'Audubon House.' Collections of birds and of ornithological literature, including the publications of this Association, have been installed, and the house has been kept open the past summer as headquarters of the National Association, where visitors have been welcomed, given opportunity for study, and thence shown the practical work carried out on the 3-square-mile tract.

In order to make it possible for visitors to remain at Amston to study and



SCALED QUAIL IN BREEDING-PEN ON NATIONAL ASSOCIATION'S BIRD SANCTUARY AND EXPERIMENT STATION, AMSTON, CONN.
Photograph by H. K. Job.

enjoy the bird-life, there having been no local hostelry, Mr. Ams has enlarged and renovated a former boarding-house, at a cost of $7,000, and had the new enterprise opened last August as Amston Inn, with plain furnishings, good food, and moderate prices. Bird-loving visitors and excursions of Bird Clubs have already utilized it.

From this Experiment Station, as well as from other sources, a large amount of valuable data is being gathered for use in demonstration work, in correspondence with inquirers, and for publications of the Association or through other channels. Much of this is given out through various magazine and newspaper articles, which helps to reach and interest a larger public. During the

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year 'Circular No. 5' has been published, summarizing the work of this Department, which proves useful in answering inquiries, thus saving much writing.

Thus far the Department of Applied Ornithology has been maintained by a small number of generous friends of wild birds. As many people have availed themselves of its services, it has seemed both fair and timely to try to have the work supported by a much larger constituency, including donors of small amounts. To arrange this a plan is being carried out which it is hoped will put the Department on a permanent self-sustaining basis and make possible further enlargement of the work.

YOUNG CALIFORNIA QUAIL, BROODED BY A HEN AT THE AUDUBON SANCTUARY AMSTON, CONNECTICUT.
Photograph by Herbert K. Job.

REPORT OF MARY S. SAGE, ORGANIZER IN SCHOOLS

There seems to be a greater demand than ever before for the Junior work in the public schools, judging from the calls for my services during the past year. After the annual meeting I returned to Albany, where I had promised to make some addresses, and would have been kept there to make a second tour through the city schools had I not felt I must go on to Syracuse. I worked in Syracuse and vicinity until the Easter holidays, making one trip to the northern part of the state.

Since the last annual meeting, talks and lectures have been given in the following places: House of Refuge (Randall's Island), Menands, Hudson Falls,

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Albany, Rotterdam, Mechanicsville, Alplaus, Round Lake, Niskayuna, Troy Boys' Club, Carman, Oneonta, Schuylerville, Berkshire Industrial School, Solvay, Syracuse, Plattsburg, West Chazy, Rouse's Point, Peru, Clyde, Corona, South Ozone, and many schools in the Bronx, New York City.

On October 15, 1917, I began the season's work by speaking at Public School No. 44, Bronx, and since that date have given seventeen illustrated lectures in the Bronx schools. One day, at the request of the Principal, I gave four talks and had an audience totaling 1,800 pupils. I have been asked to return to speak to some of the lower grades, as all the children cannot be in the Assembly Room at one time, some of the schools having over 3,000 pupils. I have a number of appointments to speak in the Bronx schools, also in Brooklyn and other places on Long Island.

I gave three talks to the Nature Class at the Normal School, Oneonta, the nature-study teacher being desirous that her teachers learn all they could so as to be able to present it properly when given schools. When I went to Plattsburg and Rouse's Point it was very cold, snow lying deep everywhere, trains late and appointments hard to keep on time, but the people were always there and waited patiently for trains and the speaker. It certainly paid, although it was a most strenuous trip. One cannot help but feel encouraged the way the work is welcomed. The schools of Greater New York seem to feel as enthusiastic as the smaller places where the birds can be seen and studied first-hand.

During the year I have given 143 public talks and lectures and reached in this way over 25,000 teachers and pupils.

REPORT OF MRS. GRANVILLE PIKE, SPECIAL AGENT FOR WASHINGTON

In the matter of bird-conservation Washington is no longer in the race for lowest place. Busied she still is with the foundation tasks of empire building, but she is rapidly coming to realize that the saving of natural assets is quite as important as accomplishments in production and construction.

A large proportion of any credit claimed may justly be given to the State Federation of Women's Clubs which, in the absence of a State Audubon Society, has for two years fostered this movement.

Early and full recognition should be given to the stimulating effect of assistance from the National Association of Audubon Societies which supplied the services of a field worker for three months and made possible the enrollment of 14,696 Junior Audubon members.

If the eastern givers, who generously finance such campaigns, could have followed the course of this—one day in the tense, alert, crowded auditorum of the city, the next in the isolated appreciative one- or two-room rural school—they would realize with joy that they have made a worth-while investment.

One day there was, outstanding and distinct in its experiences, when a

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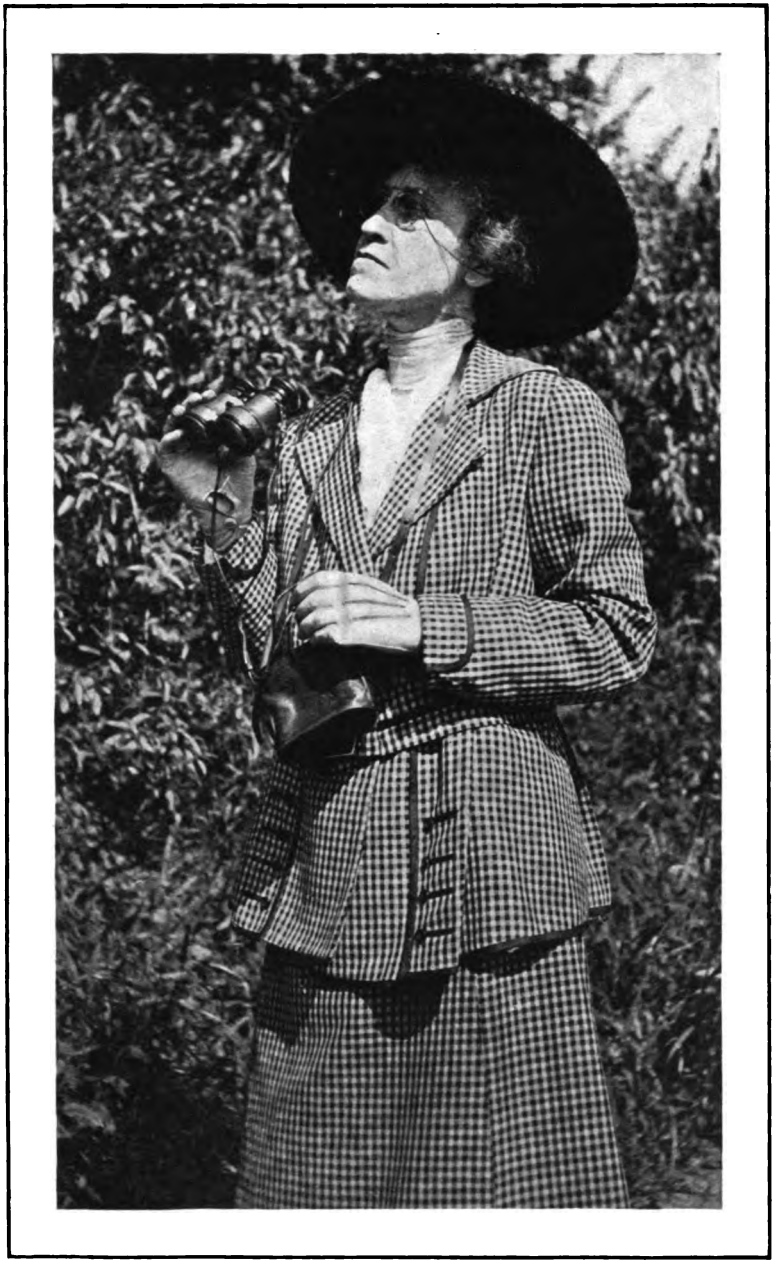

MRS. MARY S. SAGE, SCHOOL LECTURER FOR THE NATIONAL ASSOCIATION

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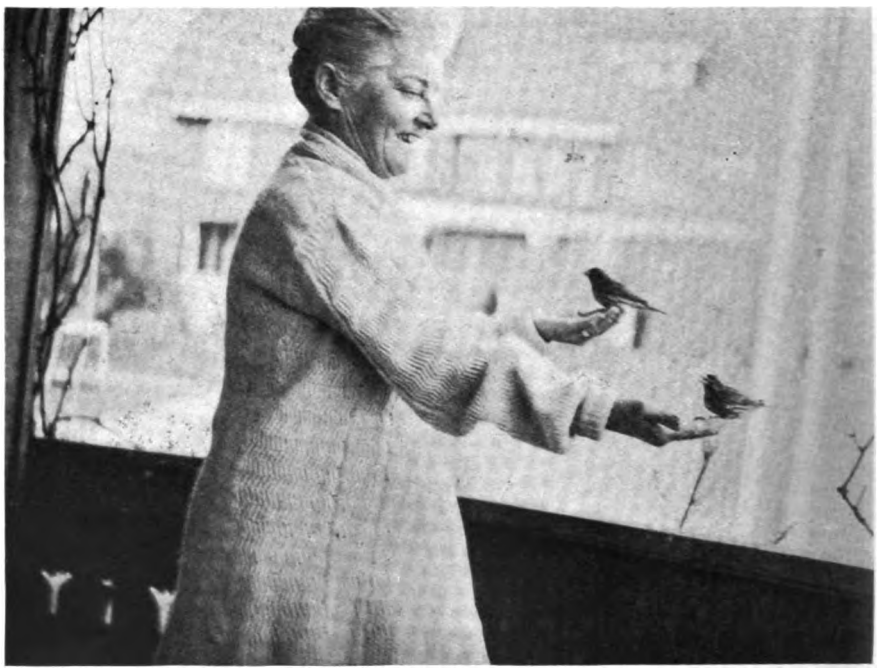
group of the state's best women took the organizer through the driving rain of an equinoctial storm, over slippery unsteady plank roads, to the schools in the logging-camps of the Gray's Harbor region. When the schools of Moclips and Pacific, on the very western rim of the continent, pledged themselves to work for bird welfare, it seemed somehow a sacred, sacrificial thing that these boys and girls, so remote from Audubon headquarters, should unite themselves as a final link in one of its chains for the protection of wild life.



FEEDING FRIENDLY FINCHES.
Photographed at Aberdeen, Washington, by Mrs. Granville R. Pike.

Prominently among our bird mercies we reckon the fact that our Governor, our State Superintendent of Schools, and our State Game Warden have each given their personal and official encouragement to the cause of the birds and have aided in the making of bird-exhibits which have formed an important part of our educational activity this year.

In addition, all the educational forces of the state are turning their attention, in increased measure, to bird-conservation. Our higher institutions of learning are putting considerable emphasis on bird-study, and our public schools are giving more time to this phase of nature instruction than formerly. Seattle had a notable Bird Day this year, and many other schools observed the day worthily.

Where, heretofore, the solitary bird-student pursued his lonely way, there

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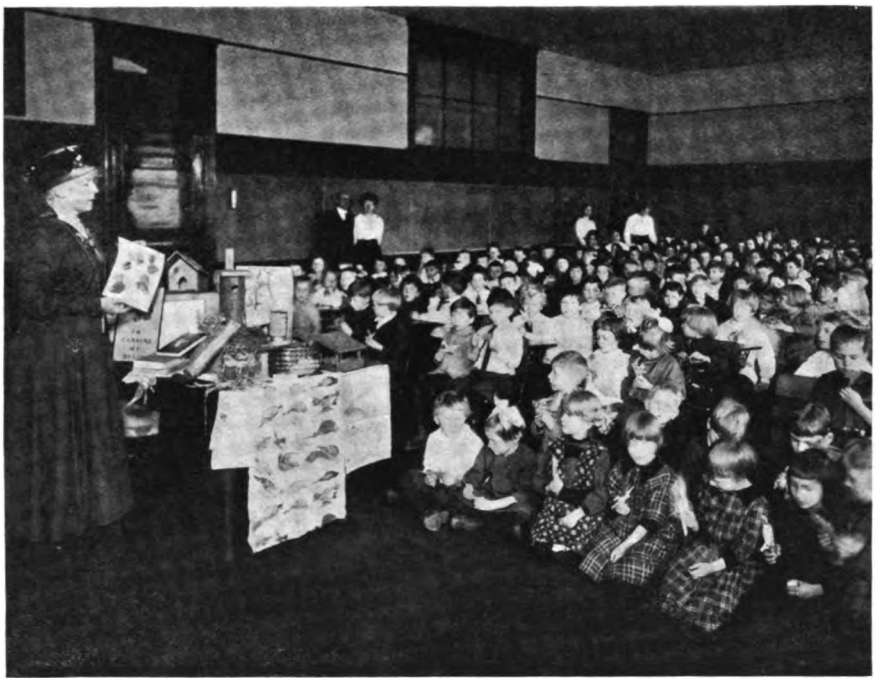
are indications of developing community interest in birds. The remarkable growth of the Spokane Bird Club, the formation of a large Audubon Society in Seattle, and the beginnings of study clubs in Tacoma and elsewhere are all encouraging signs of the times.

No single recognition of bird-needs has given more encouragement than a recent decision of the State Game Farm management to include provision for non-game birds in the planting plans of the game farm at Walla Walla. This



A JUNIOR AUDUBON CLUB IN THE MAKING.
Mrs. Granville R. Pike organizing a Junior Class in a school-room at Tacoma, Washington.

will eventually mean a sanctuary for all land- and water-birds that can be attracted to the region.

Another significant departure is a movement to bring about a better understanding of conditions and needs of wild life by some innovations on the annual program of State Game Wardens and Commissions and by the attendance, on this occasion, of fraternal delegations from women's clubs.

In spite of all this self-gratulation, we are far from satisfied with our progress. Among other things, we badly need an organ for regular, systematic publicity and educational propaganda concerning birds and their welfare. Aside from an Arbor and Bird Day Bulletin for the public schools and a pamphlet on bird-study just issued by the Normal School at Cheney, nothing has been published recently except occasionally some local material.

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Another lack is that of an educational assistant to our Game Commission, one who could coördinate and direct all the sympathetic, friendly bird forces in the state.

We propose that the coming year shall see no slackening in the task of enlisting and instructing the children and youth of our state in the knowledge and care of birds. We will also endeavor to acquaint adults with the recreational joy and profit of bird-study. We will continue to proclaim the inestimable value of birds to garden, farm and forest. All this we will do in order that the conservation of our feathered helpers may become more complete, and that, in these troublous times, all our homes may come under that saving, kindly, humanizing influence which is the sure reward of unselfish service to gentle life.

REPORT OF DR. WITMER STONE, SPECIAL FIELD AGENT FOR SOUTH CAROLINA

Last May I had the pleasure of engaging in interesting work in South Carolina, where, in the interests of bird conservation, I was operating under the auspices of the National Association of Audubon Societies.

Some of the special points visited were Charleston, Columbia, and Rock Hill; all centers of interest in bird and Audubon work. Through the cordial coöperation of Paul Rae, an illustrated lecture was given to a large audience in the Charleston Museum before the Charleston Natural History Society.

In Columbia I gave illustrated lectures before the Bird Club and the Science Club of the State University. Arrangements for these were made by Miss Belle Williams, who, for the past fifteen years, has been a faithful worker in South Carolina in the cause of bird-protection. The authorities of the University also invited me to address the entire student body in the chapel. On this and other occasions, where I had the pleasure of bringing the subject of bird-study and bird-protection before the people, it was gratifying to find how many people are becoming thorough, reliable, local ornithologists.

While visiting in Manning I found a desire on the part of many people to hear a lecture on birds. I therefore arranged for a public meeting in a moving-picture theater which was generously offered by the managment for the purpose. This is in the center of an important agricultural and truck-growing region. The large audience that gathered was composed of both adults and school children.

The Manning *Times*, the leading paper of Clarendon County, kindly offered to publish a series of articles on the local birds and their economic value. I have prepared a number of these, and they were published from time to time, carrying the message of bird-protection to a large part of the rural population of the central part of the state.

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REPORT OF CHARLES CRAWFORD GORST, CHAUTAUQUA AND LYCEUM LECTURER

It is now commonly recognized that as an inspirational force and moulder of public opinion the Chautauqua platform has few equals. But the enthusiasm generated by it, like that of its kinsman the evangelistic campaign, should be more and more directed toward and conserved in visible community works..

Each summer, on the Chautauqua platform, I have tried harder to conserve the interest aroused by my lecture-entertainment on birds by attempting to organize bird clubs. Four years ago, during a three-months Chautauqua circuit with the Redpath-Horner Chautauquas in Texas, Kansas, and Oklahoma, the audiences, with increasing frequency, suggested that their interest in birds should be saved and developed by bird clubs. The following summer, the management established bird-study as an activity of its junior or children's Chautauquas on its three circuits. It was my privilege to tour one of these circuits and coöperate with the junior Chautauqua supervisors in interesting children in birds and organizing Junior Audubon Societies. This campaign meant that during three months the children of about 225 towns of Texas, Oklahoma, Kansas, Missouri, and Nebraska were interested, for at least a week, in birds; and in at least 70 per cent of those towns we organized Junior Audubon Societies.

Late last spring I decided that during eleven weeks of Chautauqua appearances for the Coit-Alber Chautauqua Company, I would attempt the organization of bird clubs for adults. This decision was made too late to do desirable preliminary work in each community by correspondence. But each day, for two or three days before the bird-program, the platform manager announced that after the program a meeting would be held to organize a bird club.

During an hour's program, my purpose was to interest the audience in both the beauty and the usefulness of birds. To do this, I opened with a whistling solo and a novelty number, then imitated the songs of birds during forty-five minutes, accompanying the bird-music with observations on the beauty and meaning of bird-songs and with paintings of the birds about four times life size. During the last fifteen minutes I attempted by word pictures to impress the audience with the astonishing usefulness of birds, and concluded the program with an exhortation to observe and learn to love the wonder and beauty of nature.

Usually, the after-meeting was well attended. I first described the useful and interesting things that the community should do to encourage the birds. I also emphasized the personal refinement and social pleasure that a bird club would bring. Then, if a good majority of those present voted to organize, nominations were in order by any above fourteen years of age for a board of club directors. I urged that the club affiliate with the National Association of Audubon Societies and rely on it for help. It was pleasing to see how quickly

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CHARLES CRAWFORD GORST.
Chautauqua and Lyceum Lecturer.

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the nominations were made and how those most interested in birds were chosen. To the chairman of the Directors I gave Audubon Society literature and urged him to write immediately for more and for suggestions concerning special local needs. The Directors (who I advised should be composed about equally of men and women) then appointed a date, time, and place for a Directors' Meeting about a week ahead, giving the Chairman time to write or inquire concerning available bird-lecturers, literature, etc. I advised that the Directors elect their officers at that meeting, from their own number, and plan for a public meeting which would consist of an address or other program on birds, followed by an explanation of the bird club's origin and purpose and by an exhortation to the public to join.

I urged each Board of Directors to establish some bird-work among the children of the town, and especially to keep them interested in birds during the summer vacation when the schools' activities cease.

These meetings were usually followed by many questions about desirable bird literature and about the common and interesting things of bird-life. I was much interested to see how often both men and women who had paid little attention to birds declared themselves back to childhood, the time when nearly all of us are somewhat interested in them; and how some people who respond little to the presentation of the economic value of birds, will become enthusiastic when the poetry and sentiment connected with birds is emphasized.

During June and July the lecture-entertainment was given in forty-six circuit towns of Pennsylvania, Ohio, Michigan, and New York. Five of these already had bird clubs; four failed to organize; in thirty-seven it was voted to organize and committees of directors were elected. During August I filled independent Chautauqua engagements. This necessitated so much more railroad travel and so much less time in each town that I did not attempt to organize clubs. Two towns, however, early in August, voted for clubs and elected directors. During two months of lyceum engagements this fall I shall continue the organization of clubs in coöperation with the National Association wherever possible.

Bird clubs were formed, at the conclusion of my lectures, at Niles, East Liverpool, Lima, Martin's Ferry, New Philadelphia, Coshocton, Chillicothe, Crestline, Washington, Middletown, Versailles, Sidney, East Cleveland, Akron, Ravenna, Tiffin, and Dormont—all Ohio towns. Also at Coraopolis, New Brighton, Coudersport, Ridgway, Du Bois, Vandergrift, Blairsville, Varnesboro, Ligonier, Irwin, Washington, Somerset, and McDonald, in Pennsylvania; at Wyandotte, Pontiac, Bay City, Owosso, Jackson, and Adrian, Michigan; at Elkhart, Indiana; and at Hornell, New York.

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REPORTS OF AFFILIATED STATE SOCIETIES AND OF BIRD CLUBS

REPORTS OF STATE SOCIETIES

Arizona Audubon Society.—Our Society did less educational work the past year than usual. One public illustrated lecture was given on 'Birds and Their Habits,' by Dr. C. T. Vorhees, Professor of Zoölogy at the University of Arizona.

Along constructive work we did more this year than ever was done since the organization of the Society. Our efficient President, Thomas K. Marshall, made it possible financially to incorporate the Arizona Audubon Society. The heat of summer retarded this work somewhat, but with cooler weather this will soon be accomplished. Mrs. Marshall, who is an artist, kindly drew designs and presented them to the Audubon Society members, from which they chose for our 'State Seal' the Cactus Wren.

The Arizona Audubon Society is affiliated with the National Association of Audubon Societies, and we have received their 'war' posters, but as we have to deal with the Mexican foreign element, we have not been able to use many of them.—HARRIET B. THORNBER, *Secretary.*

California Audubon Society.—This being legislative year in California, we were again called upon to defend certain non-game-birds. For the sixth consecutive session, the Meadowlark was attacked, all Blackbirds and the Red-shafted Flicker being also included.

The complaint against the Flicker was that it made holes in buildings, thus destroying them. In the rice-growing sections of the north, where there are miles of water and tule-bordered sloughs, vast numbers of Blackbirds congregate and do harm in the neighborhood. Because of this there was a sentiment against them in particular and all birds in general, and we were obliged to keep representatives at the Legislature six weeks. John V. Frederick, our Treasurer, and Mrs. Adele Lewis Grant, lecturer and bird student, did valiant work, and, although there were several hundred game bills put in, many of which were adverse, all were killed in committee except that against the Blackbirds, which were taken from the protected list in the three northern fish and game districts. However, because of their abundance, and the friendly attitude of most people, we do not feel that there is any danger of their being exterminated.

A leaflet setting forth the value of Meadowlarks, Flickers, Blackbirds and Robins was sent to all legislators, leading newspapers, and club women—the latter organizations giving splendid help. We are now helping distribute a new war bulletin, 'Birds and Food Conservation,' which is being sent out by the Bird

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Chairman of the General Federation. These leaflets will be sent to anyone wishing them.

Two new adult Audubon Societies have been formed, one being in San Francisco, the other in San Diego. A good many Junior Societies have been formed, one of the largest having over 700 members (Pomona). In Santa Barbara, where Miss Gretchen Libby is in charge of nature-study, the large Junior Audubon Society has had a lake and surrounding acreage set aside as a bird sanctuary and are feeding and protecting the birds.

Though many cases of bird-killing have recently been reported, I believe that we have no reason to feel that our work is not bearing fruit. On the whole, the bird educational work in this state is progressing.—(Mrs.) HARRIET WILLIAMS MYERS, *Secretary*.

Colorado Audubon Society.—Our Society sustained a great loss early in January, 1917, in the death of its Secretary-Treasurer, Miss Leona Robbins. Miss Robbins' whole heart was in the Audubon work, and she gave freely and willingly much of her time to it, often speaking to the children at the schools and elsewhere, beside feeding and caring for the birds about her home at Ivywild, a suburb of Colorado Springs.

At the annual meeting of the Society, held shortly after her death, her place on the Board of Trustees was left vacant, and the President was authorized to appoint her successor, which, however, has not yet been done. For various reasons, the Society has not been quite as active in its work as in past years, but something has been done, however. Dr. W. W. Arnold has given bird-talks in some of the schools of Colorado Springs and the neighboring region. The Doctor illustrates his talks with living birds from his Bird Hospital, to which children and others bring many an injured bird which is cared for and set free when cured, if able to care for itself. The Cheyenne Bird Club, organized a year ago in Ivywild under the leadership of Lloyd Shaw, has awakened much interest in bird-life.

Reports are lacking from other parts of the state, though I understand work has been done in Denver and Pueblo.

The Society is in good condition financially, and has held its membership well, though not greatly increased, but that is hardly to be expected in these times when there are so many calls upon the people because of the war.—EDWARD R. WARREN, *President*.

Connecticut Audubon Society.—The work of the Connecticut Society has, in the main, followed the usual educational lines. The material handled for us by the State Board of Education has been circulated as follows: Traveling libraries to 52 schools (3 months each); lectures, 32 different towns; charts, 191 schools; portfolios of postcards and 23 portfolios of 'Birds of New York' in circulation.

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We are about to send out a new lecture entitled 'The Museum Man in the Country,' text by Mrs. Wright, illustrated by 75 slides made and colored by Wilbur F. Smith.

The work of the Junior Audubon Societies in connection with the National Association has been carried on as heretofore by Miss Hurd, our School Secretary, who has visited 35 cities and villages in the state, giving some 200 talks, and showing specimens of mounted birds to 25,000 children. As a direct result, 523 Junior Audubon Societies were formed, with a membership of 10,523.

Our Society presented a cat license bill to the Legislature last winter and sent a strong delegation to the hearing in committee. Two other bills of like nature were introduced by other bodies, but they were all killed. However, the whole matter was treated seriously, and we have great hopes that this work was

SUPERINTENDENT NOVAK OF THE BIRDCRAFT SANCTUARY TAMING A CHICKADEE
Photograph by Wilbur F. Smith

an opening wedge, and we shall work without ceasing until the bill is presented two years hence.

Milton S. Lacey, one of our Executive Board, framed a bill of great importance for the protection of shore-birds that was successfully put through the Legislature, entitled 'An Act Concerning the Snipe, Plover, and other Shore-birds,' by which there is a closed season for Golden and Black-bellied Plover,

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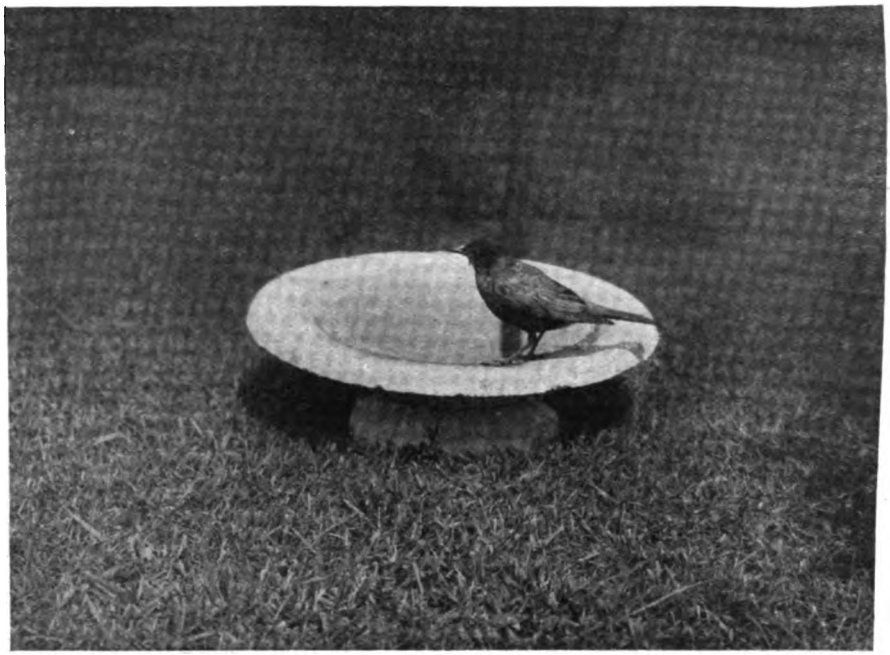

ROBIN AT BATH, BIRDCRAFT SANCTUARY, FAIRFIELD, CONN.
Photograph by Wilbur F. Smith.

Greater and Lesser Yellow-legs, and Wilson's Snipe, from December 31 to August 31, inclusive, while but ten of any or all of these species may be taken in one day. Semipalmated and Piping Plovers, Spotted, Least and Semipalmated Sandpipers may not be taken at all. All other shore-birds may not be taken until September 1, 1922, unless a change in the Federal Law shall require a modification.

At our Annual Meeting held in October, 1916, H. H. Cleaves gave a lecture on 'Bird-Study and Bird-Attraction.' On May 26, under the auspices of the National Association and the Connecticut Society, a Conference of the Bird and Nature Clubs of Connecticut was held at Fairfield. The Clubs assembled at Birdcraft Sanctuary in the morning, and a reception was held at 'Oakhaven,' the home of Mrs. Wright. A visit to the Sanctuary and Museum followed; also a meeting to organize a permanent Federation of Nature Clubs. After a basket luncheon, during which coffee was served both at 'Birdcraft' and in Mrs. Wright's garden, the Clubs adjourned to Sherman Hall in the village, where an open meeting was held and addresses were made by T. Gilbert Pearson; Winthrop Packard, Secretary of the Massachusetts Audubon Society; Mr. Ripley of the Hartford Bird Study Club; Rev. Coe and others. This Conference was of incalculable value, both to the cause of bird-protection and as a stimulus to bird-study, bringing together, as it did, people of widely different views from all parts of the state.

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A new venture was sending, the past week, an educational exhibit to the Danbury Fair, one of the chief expositions held annually in the state.

We were allotted a table in the tent of the Fairfield County Farm Bureau, where special attention was paid to food conservation, and a presentation of the economic value of bird-life was particularly appropriate. A little panorama of bird-life in natural settings showed the shore-birds that may and may not be shot, the upland game-birds, useful Hawks and Owls, predaceous Hawks, and a group of song and insect-eating birds that are most frequently shot by foreign-born poachers. Each group was clearly labeled. There was also an exhibit of bird-houses that have been used in the Sanctuary, together with birds of the species that occupied them, and specimens of the berries to be found in the Sanctuary, fastened to large cards, and plainly named. Beside this table, Miss Hurd had an exhibit of the leaflets of the National Association, which she distributed, samples of the lantern-slides which she used in our free lectures, copies of BIRD-LORE, and 3,000 circulars describing the work of the Connecticut Audubon Society, the National Association, and the work of the Junior Audubon Societies and the manner of forming these groups. This idea proved very successful, a constant stream of visitors being about the exhibit, which introduced the work to many thousands of people otherwise unreachable.—HELEN W. GLOVER, *Secretary*.

District of Columbia Audubon Society.—At our annual meeting held on January 19, we had the pleasure of listening to a delightful, illustrated lecture by Dr. Arthur A. Allen, his subject being 'Studies of Common Birds.'

On March 28, a most enthusiastic audience greeted Ernest Harold Baynes, when he told us some of his own charming experiences in attracting the wild birds and made us all feel that we wanted to do the same thing.

Mrs. Florence Merriam Bailey led five most interesting and well-attended Bird-Study Classes. These were followed by our usual 'outings,' six in number this year, and with a larger attendance and greater variety of birds being observed than ever before. For a number of years we have had what we call our Honor Roll, composed of those who go on all the walks. It was Prof. Wells W. Cooke's kindly custom to invite the members of the Honor Roll on an extra trip, ending at the 'Wick-i-up,' his cabin at Viresco, a few miles out of Washington. For the past two years his sister and daughter have continued this generous hospitality, and the accompanying photograph shows some of us who were fortunate enough to be there this spring.

May 18 was the twentieth anniversary of the founding of our Society, it being the eighth to be formed in the United States. This year we celebrated our birthday by giving a reception to the founder of our Society, John Dewhurst Patten, at the residence of the Secretary, which everyone seemed to enjoy, and where we had the privilege and pleasure of hearing Miss Grace D. Litchfield read her own lovely poem, 'The Hermit Thrush.'

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Considering the changeable character of the population of Washington, we think it rather remarkable that sixteen of our original members still hold office, either as Honorary Vice-Presidents or members of the Executive Committee. —HELEN P. CHILDS, *Secretary*.

East Tennessee Audubon Society.—Our Society is progressing slowly, but surely. We know this because of the steadily increasing number of birds; and of the many adults, as well as children, who are interested and eager for information on the subject.

'HONOR ROLL' MEMBERS OF THE DISTRICT OF COLUMBIA AUDUBON SOCIETY HAVING AN OUTING AT THE COOKE 'WICK-I-UP.'

We had one very interesting and instructive lecture by Dr. G. Clyde Fisher, Associate Curator of the American Museum of Natural History, who, during the Summer School at the State University, was lecturing for the National Association of Audubon Societies. Like Oliver Twist, we wanted more. Hon. W. D. Howser, our State Warden, always responds to any appeal for help we make to him. He lectured for us at the Farmers' Convention in May. Always a busy man, he found time to spend one day at the East Tennessee Division Fair, where he held the crowd entranced by his display of knowledge of the

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habits of some sixty-odd mounted specimens of our common birds, which had been loaned by Dr. Fisher. Thanks to these two gentlemen and the energy and executive ability of two ladies, our exhibit at the fair was a complete success.

We put out the Association's 'war' posters in large numbers, instructed Boy Scouts, ran down offenders of the bird-law, visited schools, and talked 'birds' on all occasions.—MAGNOLIA WOODWARD, *Corresponding Secretary.*

Florida Audubon Society.—The sixteenth annual meeting of the Florida Audubon Society, held at Winter Park on March 15, brought together a large number of men and women who, in various ways, have indicated their deep and continued interest in the preservation of the feathered wild-life of Florida, where ruthless ignorance has caused more pitiful destruction, I am inclined to say, than has occurred in any other state of the Union.

The opening address of the President, Dr. W. F. Blackman, and the several reports of other officers and the secretaries of affiliated organizations, especially those of the local societies at St. Petersburg and Cocoanut Grove, were very encouraging, both as to work accomplished and prospective effort. During six months, closing May 1, the Florida Society kept on the job as Field Agent, Miss Isabel Goodhue, who visited 67 cities, towns and villages in the state, addressing during her itinerary 70 schools and colleges, 50 women's clubs or other adult audiences, and creating an interest that has resulted in a considerable increase in our active membership. During the year new Junior Classes were formed in the schools, increasing the number of these classes to 216, with a total membership of over 4,000, an increase of 67 classes and 1,200 members. We much regret that the Society is unable to retain the services of Miss Goodhue during the present year, so that this splendid work in the schools and the increasing interest of those just beginning to be persuaded to consider the value of the wild birds and to comprehend the need of their better protection might not be permitted to die out.

Aside from the distribution of leaflets to the Junior Classes, furnished by the National Association, we circulated 5,000 Florida bird-law leaflets, warning cards, and other printed literature intended to bring the protective laws of the state to the notice of both adults and children.

During the year, 95 new members were added to our list, the greatest number in a like period since the organization of the Society.

Following the business session of the annual meeting, Dr. H. R. Mills gave a talk on our passing plumage birds and their nesting habits, illustrating his remarks with photographic slides and touching vividly on some of the recent slaughter by inhuman hunters of plumes.

Our efforts at the recent session of the Legislature for more effective protective laws were not fruitful of the results hoped for. A carefully prepared bill, considerably curtailing the open seasons for hunting feathered game and providing for a state warden system, was presented and urged. Dr. Blackman spent

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W. SCOTT WAY, SECRETARY OF THE FLORIDA AUDUBON SOCIETY.

several weeks at Tallahassee; Dr. Mills helped personally and by correspondence, and several members of the Legislature worked faithfully for the bill. It finally was passed in the last days of the session, but for some reason not clear to those interested in the saving of our passing wild life, the Governor vetoed it. Therefore, the enforcement of the bird and game laws remains with the several counties, with practically no funds provided for the payment of wardens. Our bird laws as they stand are comparatively good, but the machinery provided for their enforcement is antiquated and inadequate.

Though the war may, in a measure, divide the interest of some of our more faithful workers, we shall continue our efforts along former lines, increasing our output of printed matter, and making a special effort, through our affiliated organizations and interested members, for the establishment of bird-sanctuaries throughout the state, believing this to be, under present conditions, the most promising means of saving our wild bird life until the needed legislation can be obtained. Two such sanctuaries—one of several thousand acres near Fort Myers, known as the Julia Hanson Reservation, and the other embracing all lands within the limits of the town of Winter Park—already are established.—W. Scott Way, *Secretary*.

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Illinois Audubon Society.—The Annual Meeting of the Illinois Audubon Society, held in Fullerton Hall, Chicago, May, 1917, marked the close of the twentieth year of continuous activity on the part of this organization.

The work of the past year has been unusually satisfactory, and we are glad to report a notable increase in membership. The routine educational work of the Society, which consists in distributing literature, loaning traveling libraries and sets of stereopticon slides, arranging lecture dates, etc., has progressed in much the same way as formerly. Our three sets of lantern-slides from photographic subjects, artistically colored, are particularly well liked and are in continuous demand by schools, churches, Boy Scouts and other clubs.

An important new enterprise has been the publication of a 'house organ,' so to speak—the *Audubon Bulletin*. This began with the Spring Bulletin 1916, and has been followed by two other issues, one for the winter 1916-17, and the other for spring 1917. The object of this publication is not only to create a wider interest in birds and their protection throughout the state, but to give publicity to the activities of our Society. The directors feel that the Bulletin meets a long-felt need, and they have been much gratified at the favorable comment evoked by the makeup and contents of the magazine.

Our most notable undertaking in 1917 was the launching of a spring lecture-course in Chicago, a cherished project which we had never before had the courage to attempt. To our surprise and pleasure this proved most successful, even from a financial standpoint. The lectures were given in Central Music Hall on Saturday mornings at 11 o'clock, March 3 and 24, and April 14. William L. Finley, of Oregon, gave the initial lecture, with his remarkable moving picture of the West, its animals and birds. On the second date, Mr. Baynes, of Meriden, N. H., gave his charming lecture on 'How to Attract the Birds,' illustrated by fine stereopticon pictures. April 14, Norman McClintock, of Pittsburgh, again fascinated a Chicago audience with his wonderful moving pictures of birds of the East and South. At each of these lectures the house was filled to capacity. The audiences were made up largely of adults, and one noteworthy fact was the presence of a goodly number of men, despite the morning hour, which had been considered a possible handicap for business people.

One practical accomplishment has been the ending of the aigrette traffic in Chicago. There is no statute in Illinois specifically forbidding the sale of aigrettes. The State Game Law, however, contains a clause making it illegal to sell any bird or part of wild bird, which some of the Directors believed was in itself a prohibition of the aigrette trade. Our attorney brought the matter to the attention of the State Game and Fish Commission, who referred it to the Attorney General. He rendered an opinion, holding that the clause in question made the aigrette trade illegal. When this was brought to the attention of the State Street stores, the managers promptly agreed to discontinue

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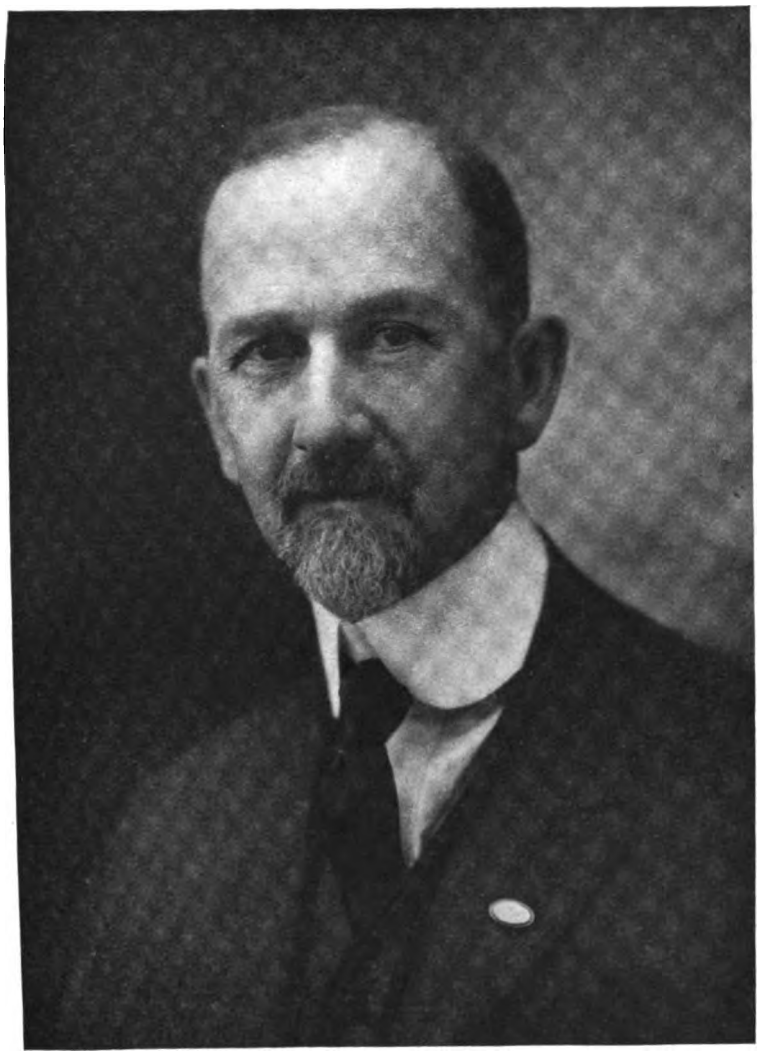

O. M. Schantz

President of the Illinois Audubon Society.

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the sale of aigrettes and to coöperate with our representatives in suppressing the trade throughout the city.—BERTHA TRAER PATTEE, *Secretary*.

Indiana Audubon Society.—In view of the fact that no general report of Audubon work was made last year, the present report will include that.

Last year the annual convention was held at Rushville, Ind., with a three-day program. The evening meetings were given over to lectures showing the close relationship of birds to the life of man, and stimulating more study and protection of the birds. All the schools were visited, and short bird-talks given by the Audubon members. Two lectures were given before the high school, entitled 'Our Summer Residents,' and 'Nature Study and Farm Life.' A bird exhibit of mounted specimens and bird-boxes was held in the annex high school. Only birds that could be seen at that time were shown. Longfellow's 'Birds of Killingworth,' was dramatized most effectively by second- and third-grade children. Following this was the field-trip to Flat Rock River by a large crowd of little folks and big folks. Saturday morning, children and grown-ups gathered at the annex high school yard to raise a Martin-house. This was the prize won by this school for the longest list of birds observed within a certain time. W. T. Wilson, who made and gave the prize, was present at the raising.

The 1917 convention was held at Michigan City in May. The children sang songs at the evening meetings and had charge of the programs at the door. Bird-lovers of Michigan and Illinois were invited to attend this convention. Invitations were sent to the Indiana colleges, universities and high schools, inviting them to send a representative to the Michigan City convention. The Secretary of the Illinois Audubon Society was present and told of its work for the birds. Prof. Eifrig, of Oak Park, gave a short talk on 'The Birds of the Sand-dunes.' This was given on one of the dunes near the lake, in front of the Prairie Club House. A Virginia Rail was seen leaving her nest, which she had placed under the step of the club-house.

A member of the National Dune Park Association was present, who briefly told of the dunes, urging our support toward purchasing them, and thus saving them for a state park. Mr. Redpath spoke of the great destruction of song-birds by hunters.

Over 100 of the National Association's 'war' posters have been placed in parks, reservations and farms. Several hundred acres hear Muncie, Ind., have been given to the state as a reservation for wild life. The new State Park, 'McCormick's Creek Canyon,' is also a bird reservation.

An Environment Exhibit at Fort Wayne, supervised by Margaret M. Hanna, was most successful. Hundreds of birds were used from the Charles Stockbridge Collection and arranged in trees, shrubs, vines and bushes. Twenty thousand people visited this exhibit during the six days' centennial.

The Society now owns two sets of bird slides: one set of 50 has recently been purchased to be used by teachers and others interested in giving bird lectures;

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the other set is to be used by the Field Secretary only. Bird-talks have been given before schools, churches, county and farmers' institutes, women's clubs, etc. Ernest Harold Baynes, in his Chautauqua work in Indiana, has been organizing bird clubs.

The Indiana Audubon Society has lost two good friends and helpers: One, Jane L. Hine, was a lover of birds, a helper in every bird organization, and a writer of bird-poems of unusual charm; the other, Dr. David Worth Dennis, who for so many years was the biologist of Earlham College. Dr. Dennis was a charter member of the Society. He was always present at its conventions and was president for three successive years. The memorial prepared by Alden H. Hadley will be published in the proceedings of the Academy of Science, of which Dr. Dennis was also a charter member.—ELIZABETH H. DOWNHOUR, *Secretary.*

Kentucky Audubon Society.—During the past year the Kentucky Audubon Society has put out no legislative propaganda nor employed any public speakers. Its activities have been limited to indulging in its customary series of bird-walks during the spring migratory period and to fathering certain educational works in the public schools, including a number of prizes awarded to manual training classes for the construction and maintenance of bird-nesting and -feeding-houses. The membership has increased slightly the past year. —EUGENE SIMPSON, *Assistant Secretary.*

Massachusetts Audubon Society.—The Society feels that one important work done by it since September, 1916, has been its help toward the passage of the Enabling Act which is needed to make the Migratory Bird Treaty with Great Britain and Canada vital. Its officers and many of its members worked ceaselessly to arouse public sentiment in favor of this act, and it brought all possible legitimate influence to bear on its Senators and Congressmen at Washington. Realizing the value of the efforts to this same end being put forth by the National Association of Audubon Societies of New York, under the able leadership of its Secretary, T. Gilbert Pearson, it contributed $1,500 to the campaign, which has since proved so effective.

During the year the Society added 417 sustaining members to its list and increased its life membership by 39, making its total of sustaining members listed since its organization 3,188, its life members being now 441. For many years, through the courtesy of the National Association, the Junior Classes in bird-study have been conducted in this state by the Massachusetts Society. This work, during the past year, has been taken over by the National Association but has been conducted by the same staff, from its headquarters at the same address, and with the same excellent results. In relinquishing the work the Massachusetts Society wishes to express its appreciation of the courtesy extended by the National Association in this, as in so many other ways, and its

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hearty good will toward the Junior Class work which it believes to be one of very great importance in the educational field.

During March the annual course of lectures by the most distinguished authorities on bird-life was held in Tremont Temple, with an attendance at each lecture of about 1,500. The speakers were Clinton G. Abbott, of New York; Dr. Arthur A. Allen, of Cornell University; T. Gilbert Pearson, Secretary of the National Association of Audubon Societies; William L. Finley, of Oregon; and Charles C. Gorst, of Cambridge, Mass. At the Society's Annual Mass Meeting in Tremont Temple, Ernest Harold Baynes and Mr. Gorst addressed an audience of some 2,500.

The Secretary has lectured as usual during the year throughout the state, doing his best to interest clubs, schools, granges and other societies in the cause. Unable to attend fully to the increasing demands, he has been ably assisted in this work by Miss Ruth E. Rouillard, of the office staff; Mrs. F. B. Goode, Local Secretary for Sharon; Rev. Henry Sartorio, of Boston, who appeared before various Italian societies of Greater Boston, speaking in Italian; and Charles B. Floyd, President of the Brookline Bird Club.

Through traveling lectures, traveling libraries, bird-charts, bird-calendars, bird-houses and supplies of all kinds, advice and assistance at the office, correspondence and personal inspection, in a hundred other ways too numerous to mention, the Society has, during the past year, labored faithfully, and, it feels, with a modest measure of success for the better protection of birds.—WINTHROP PACKARD, *Secretary*.

Michigan Audubon Society.—Our Society records about 100 lectures given by its officers to more than 15,000 individuals, chiefly school-children; the placing of 200 Audubon charts in schools, with helps for the teachers; a splendid exhibit (see the photograph) at Mid-winter Rally and the Oceana County Fair; the usual amount of literature distributed and letters written; and much publicity for the cause through the newspapers and the *Michigan Sportsman*.

At the annual meeting in February at Battle Creek, instructive addresses were given by representatives of the State Game Warden Department and the Public Domain Commission, and the local Audubon school clubs reported an outside feeding-station maintained by each school in the city. In the evening 'The Spirit of Audubon' film was presented to a large and delighted audience.

Through the efforts of the local Society, a cat license ordinance was passed in Grand Rapids, requiring a tax of 50 cents on male and $1.00 on female cats in that city. At the last state legislative session, a law, which we helped agitate for, was passed giving the right to owners of property and officers to kill all cats destroying game, birds, or poultry. Thus is the anti-cat sentiment growing.

Around the state, Audubon Societies at Greenville, Ann Arbor, Portland,

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MRS. EDITH C. MUNGER.
President of the Michigan State Audubon Society.

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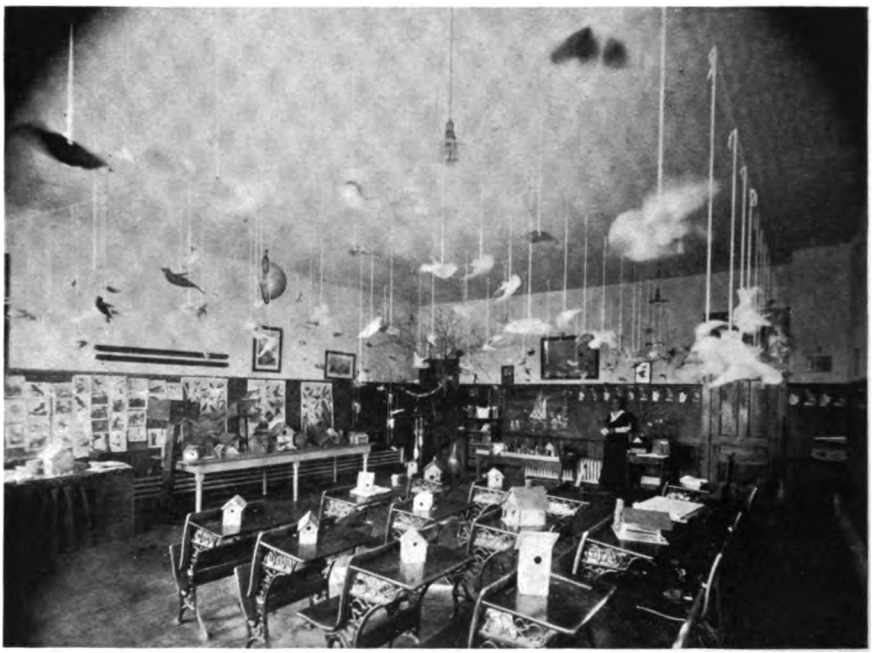
Three Rivers, Ypsilanti and Holland report bird-walks, exhibits, bird-house building contests, Audubon Day programs and other activities. The Bird Conservation Week at Holland was the most educational of all, since a splendid exhibit of mounted birds (grouped according to their uses), pictures, books,



VIEW OF PORTION OF EXHIBIT AT MID-WINTER BIRD RALLY HELD IN THE HOME TOWN OF THE PRESIDENT OF THE MICHIGAN AUDUBON SOCIETY. DISPLAY ARRANGED BY THE SCHOOL CHILDREN.

magazines, charts, houses, cat-guards, and feeding and bathing devices, in a downtown store building, was open the entire week, with efficient guides in charge. E. H. Sargent and Mrs. Edith C. Munger visited every school, giving talks on bird-protection and stereopticon lectures in the evenings.

Since Michigan was the first state to form a Wild Life Conservation Department in its Women's Committee, Council of National Defense organization, and our President was made its Chairman, much publicity is afforded the Audubon work through this channel.

What the next year may demand of us we know not, but we do know that our part in helping to add to the food-supply of the world will be through conserving bird-life as we have never done before.—(Miss) GERTRUDE READING, *Secretary.*

Nebraska Audubon Society.—The Society has had a most satisfactory year, with several achievements to our credit. We were successful in getting

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some legislation passed. Our bill, introduced and warmly sponsored by State Senator A. J. Sawyer, of Lincoln, providing for a closed season on Doves, successfully passed and became a law. However, a provision for the setting apart of certain designated areas, both wooded lands and some lake regions in the sand-hill country, failed of passage.

Our members have been most keenly interested in the efforts of the National Association to preserve the Migratory Bird Law and the Treaty with Great Britain. Numerous telegrams and letters were sent to Washington to our Senators and Representatives and to committees in behalf of these measures.

The 200 suet-holders which were purchased early last fall by the Society and placed in the parks and along the boulevards, were certainly a delight to our winter visitants and sojourners. The suet was provided by the Society, and the Committee, aided by the Boy Scouts, kept the holders replenished.

The Society purchased, through the National Geographic Society, a set of fifty slides of Nebraska birds, painted by Louis Agassiz Fuertes. These beauti-

ON THE SHORE, CHILD'S POINT BIRD SANCTUARY, OMAHA, NEBRASKA.

ful slides have been of tremendous value to our work. Requests for the use of them have come to us from all over the state, and they have made a dozen journeys to different towns in Nebraska and Iowa. The slides have been shown a score of times in Omaha at churches, settlement and civic centers, with lectures by our President, Dr. Towne, and others. Enos Mills' lecture on

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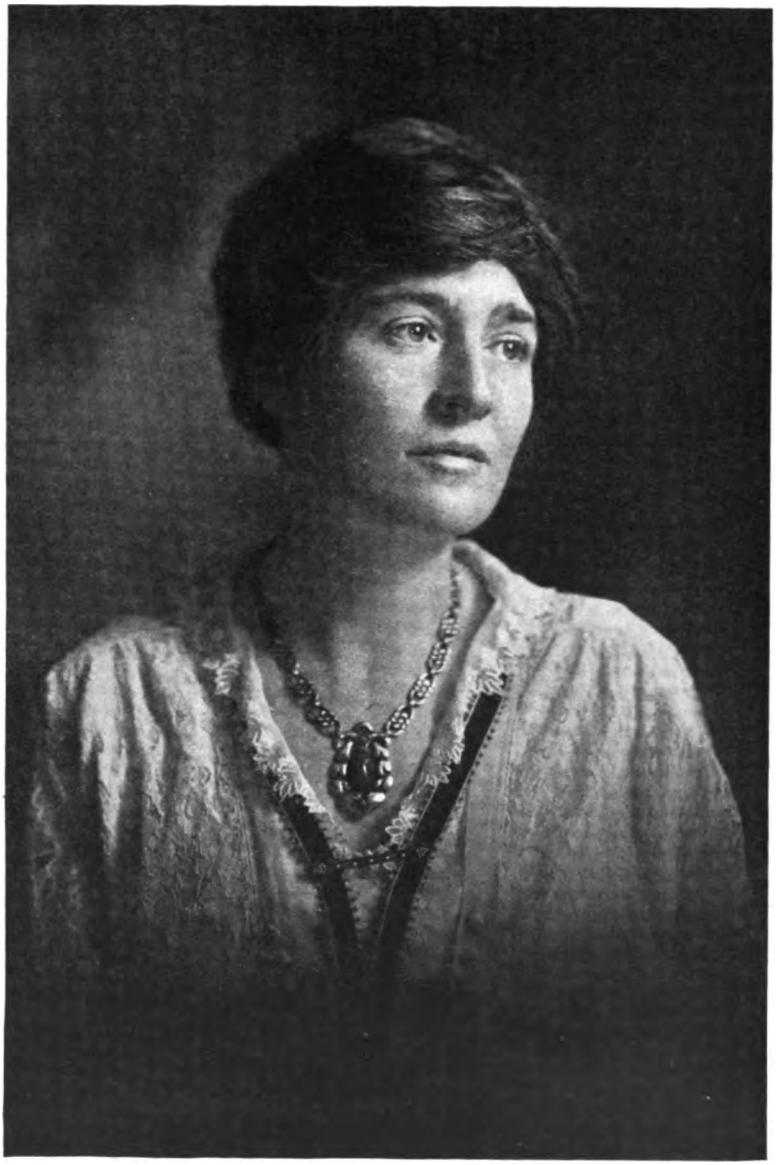

MISS JOY MONTGOMERY HIGGINS.
Secretary of the Nebraska Audubon Society.

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the evening of February 24 was as delightful as it was instructive. Mr. Mills has many friends in Omaha, and he spoke to a capacity audience, numbering not a few Juniors in response to whose request he told in closing his ever-charming story of 'Little Blue.' It was at this lecture that the Fuertes slides were first presented.

Regular monthly meetings have been held throughout the year, always with an interested attendance. Lectures by members of the State University faculty and local ornithologists have been features of our meetings.

One hundred 'war' posters, from the National Association of Audubon Societies, printed on linen, are now being posted in the outlying woods and in

ONE OF THE WOODED SLOPES IN CHILD'S POINT BIRD SANCTUARY AT OMAHA.

Childs' Point, the beautiful 500-acre bird sanctuary which was preserved to posterity through the generosity of Dr. Harold Gifford. Dr. Gifford has had posted in the sanctuary other warnings and educational signs. The Society has offered a reward for testimony leading to the arrest and conviction of any one breaking the bird laws.

For the purpose and with the hope of acquiring and holding property, the Society was last July incorporated under the laws of the State of Nebraska.

Every year the interest in bird-life becomes more widespread. The extension work of the Department of Agriculture of the State University, the work in the public schools, the far-reaching work of the National Association, and other influences all do their big bit, but too much thanks cannot be given the

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press, especially the newspapers of Omaha, in spreading the propaganda. For over two years and a half, the Omaha *World Herald*, aside from feature stories on the subject, has carried an editorial every Sunday, touching in the most interesting and intimate way some phase of bird-life. These editorials are from the gifted pen of Miles Greenleaf. Mr. Greenleaf is the most earnest and conservative bird-student, concerned in, and never failing to present, the economic value of our birds, but he presents his subject in a manner to attract the attention and bring the message home. He gives one the flash of color, the note of melody, and the fresh atmosphere of God's good out-of-doors. The following editorial of his, printed in the early summer, called forth scores of inquiries from potato-growers about their unknown friend, the Rose-breasted Grosbeak.

"THE DISAPPOINTED GROSBEAK

"He came one morning, with the glorious rose of his breast fairly sparkling in the sunshine and the black and white of his fashionable raiment setting off this adornment as a priceless ruby, perfectly mounted.

"It was a modest city garden that he chose for his hunting grounds this day, and there were potatoes in it, which he noted with approval, being of a Hooversque turn of mind and in favor of conservation. The potatoes themselves did not interest him gastronomically, but he doubtless reasoned that office gardeners in palm-beaches were not likely to seriously impair their health in modern methods of cultivation, and that his old friend, the potato bug, would be there in force.

"After surveying the promising prospect in something the manner that we inspect a comprehensive menu, this Rose-breasted Grosbeak swooped daintily down and began his foray. Diligently he prowled that potato patch—diligently and painstakingly and with unswerving attention to business. Up one row and down another he hopped and flew, and finally swooped to a fence-post and swore. If ever so beautiful a bird creature swore, this one did—and vehemently.

" 'Well, may I be blistered if this don't beat all—get out!' he fumed, partly to himself. 'Not a single, bloody, yellow-backed striped son of a sea cook in sight? What do you known about that?'

"He had something to blaspheme about, too, for potato bugs are strangely scarce game in these parts this year, and potato bugs are the Grosbeak's favorite dish. Many a crop of spuds have been saved from these pests by this splendid bird, a fact which should interest Nebraskans, now that this has blossomed out as a potato state.

"But this particular Grosbeak ripped around awhile and then decided that if he couldn't have potato bugs he would try some other delicacy in season, and all day long he worked in that garden; he only knows how many thousand insects he removed from this citizen's ripening crop, if he kept count, which is doubtful. And in the evening he offered thanks with deep-throated melodious warble which completely defies all human instruments, and flew away, his gun over his shoulder, so to speak.

"Anyone who hasn't the proper appreciation of birds' service to mankind would do well to spend a few hours in a garden at this season. He should count the number of bugs and worms and things that these feathered foragers consume in a brief space of time, and then wish he had that many dollars so he could retire and have a private car and a winter home in southern California and live happily ever after."

—(Miss) JOY MONTGOMERY HIGGINS, *Secretary*.

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New Hampshire Audubon Society.—The Audubon Society of New Hampshire reports a year of successful achievement. The membership has increased until it totals 885. Life memberships have increased from 37 to 56.

The Junior Audubon work has been pushed with vigor. More than 6,000 school-children were organized into Bird Classes, a very large percentage of the state's population. No work for bird conservation can be more promising for future results.

The secretary has given 69 lectures and addresses, many of them illustrated, before all sorts of gatherings—schools, churches, granges, women's clubs, summer hotels, teachers' clubs, young people's societies, private schools, etc.

A strong effort was made to get through the Legislature 'A Bill for the Better Protection of Birds by the Licensing of Cats.' The House Committee, originally hostile, was converted and favorably reported the bill, but it was killed in the House, principally through the hostility of the farmers, the very ones who would have most profited by its passage. A fine beginning was made, however, paving the way to ultimate victory.

From all over the state come to us inquiries of all sorts. People are learning to turn to us for help and information.

A bulletin 'Feed the Birds in Winter,' has been issued, and a large number of copies of this and other literature distributed. It is planned to issue at least one new bulletin every year.

Satisfactory reports have been received of a considerable increase in the numbers of the song-birds all over the state. This holds true also of game-birds. The Federal Migratory Bird Law is bearing its expected fruit. The Prairie Horned Lark is now a permanent resident. House Wrens, which have grown scarce of recent years, are coming back. Mockingbirds are working this way and

MANLEY B. TOWNSEND, PRESIDENT OF THE NEW HAMPSHIRE AUDUBON SOCIETY, VISITED BY SEVEN LIVE FLICKERS.

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are occasionally reported. Evening Grosbeaks are regular winter visitors all over the state. There is good circumstantial evidence that they may breed within our borders. Large numbers of Black Ducks have bred within the state. Robins and Warblers are particularly abundant. Tennessee, Bay-breasted and Cape May Warblers, once rare, are now common in migration.—MANLEY B. TOWNSEND, *Secretary.*

New Jersey Audubon Society.—During its seventh year, the New Jersey Audubon Society established an office and its headquarters at 164 Market Street, Newark, and secured the aid of an assistant.

The total receipts for the year amounted to $5,612.46 and the total expenditures to $4,193.93, leaving a balance on hand at the close of the fiscal year of $1,418.53.

Abnormal conditions, due to the world war, were seriously felt in the campaign for increased membership, so that the net gain in this respect was only 16 sustaining members, 57 members, and 13 associate members, but several substantial contributions were received—one of $1,000, one of $300, and one of $100.

In legislative effort, attempts to secure a cat license law and a law affording permanent protection to the Bobolink were of no avail. The annual bounty bill, a measure providing bounties on Hawks and Crows, introduced by the enemies of bird-life were once more defeated. The Society took its usual part in Federal legislative effort.

Publicity work continues to increase as a field of activity, with steadily developing coöperation on the part of the press of the state. The Newark *Evening News* greeted the advent of the Society in Newark with a well-written and finely illustrated article, and on September 22 published a similar one, calling attention to the Society's work. Several other important news articles have been published, in addition to the regular news articles that go to the general press of the state.

The Society organ, the *New Jersey Audubon Bulletin*, has been published regularly throughout the year at two-month intervals, each issue containing a halftone illustration.

Ten lectures have been given by the Secretary during the year in various parts of the state, with several minor talks.

Two of the members of the Society have established bird sanctuaries on their estates.

The Society devoted an even greater amount of time and attention than heretofore to Junior Audubon Class work in the schools, in coöperation with that field of activity of the National Association. A total of 579 Junior Audubon Classes, with a membership of 14,382, were organized in New Jersey.

The seventh annual meeting was held at the Free Public Library, Tuesday, Oct. 2; business session at 4 P. M., followed immediately by the meeting of

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the Board of Trustees; public session at 8 P. M. Col. A. R. Kuser gave up the presidency on account of ill health. Officers elected were: President, Clarence B. Riker; Vice-President, W. DeW. Miller; Secretary-Treasurer, Beecher S. Bowdish; Board of Trustees—Clarence B. Riker, W. DeW. Miller, Beecher S. Bowdish, Anthony R. Kuser, George Batten, Henry van Dyke, Frank M. Chapman, Edwin S. Lines, John K. Gore, Alexander H. Phillips, Philip B. Philipp, John T. Nichols, Mrs. Walter D. Ferres, John Dryden Kuser, Ira Barrows, Samuel N. Rhoads, Miss Mary Pierson Allen.

B. S. BOWDISH,
Secretary of the New Jersey Audubon Society. He is one of the Audubon Societies' most active field men.

At the evening session, Mr. Henry Oldys, as accredited representative of the Hoover Food Administration, gave a free illustrated lecture on 'Birds and Food Shortage' to a good and appreciative audience.—BEECHER S. BOWDISH, *Secretary.*

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Audubon Society of North Carolina.—The past year has been full of activity for the Audubon Society of North Carolina. Although we have state jurisdiction in the matter of enforcing the game laws in only about one-third of the state, we find a large field in which to carry on our work. Our wardens have done good work; they secured the conviction of 161 violators of the game laws during the past year. We believe our game laws are being better observed each year.

One of the most important branches of our work during the past year has been the organization of Junior Audubon Societies in the schools and among the Boy Scouts of the state. There were 132 of these societies organized last year, with a total membership of 2,925. A number of these schools held special Bird Day exercises, thereby interesting the entire community in the importance of the preservation of bird-life. We are always glad to coöperate with the National Association in this work.

The Secretary has been active in giving lectures on bird-life all over the state. During the last year 134 such lectures were given, most of them being illustrated with charts, pictures, or stereopticon views. Not less than 10,000 people heard these lectures, and we believe many of them are now ready to give us their hearty coöperation.

A SAMPLE OF BIRD-BOXES MADE FROM CYPRESS KNEES. THIS EFFORT IS FOSTERED BY THE NORTH CAROLINA AUDUBON SOCIETY.

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In all our talks we emphasize the urgent need of uniform game laws for our state and condemn the method of allowing each county to have its own laws. Every two years, when our Legislature meets, we work to secure the passage of uniform game laws and for the establishment of a Fish and Game Commission for our state. At the recent meeting of our Legislature we came near getting such a Commission established. So far, however, we have not succeeded, but we are determined to make another desperate effort in 1919.—G. A. MARTIN, *Secretary*.

Ohio Audubon Society.—The Society has just closed a very prosperous year. Both in point of membership, as well as financially, we can report great progress. The present year is the twentieth year of existence as a state organization. A vast amount of good has been accomplished during these twenty years. We feel, however, that much remains to be done, and to this work we dedicate ourselves more earnestly than ever before.

Our monthly meetings are always times of great enjoyment for our members. Many interesting lectures on practical topics are delivered on these occasions. So-called 'Experience Meetings' are held from time to time. The May meeting is our 'Outdoor Meeting,' at which all bird-lovers are welcome. Besides this, we have weekly 'hikes' on which bird-life at all seasons of the year is studied at first-hand.

The interest in bird-life throughout this entire region is very keen. This is evidenced on every hand. Bird-shelters, feeding-devices, baths, nesting-boxes, etc., may be seen everywhere, in yards and along streets, throughout the city. Our City Park Department has put up hundreds of nesting-boxes and feeding-devices in the various parks and boulevards in and about the city.

Unfortunately, cats still run at large in Cincinnati and surrounding territory in vast numbers. Their depredations upon our bird-life are very great. We have been, and still are trying, to educate the public to come to a realization of the great harm done by the stray cat. We hope to induce our City Council to pass an ordinance requiring the licensing of all cats and the destruction of all unlicensed cats. The excellent publication, 'The Domestic Cat,' by E. H. Forbush, is being distributed by our Society to great advantage.

The work of providing lecturers for gatherings at schools, churches, etc., is vigorously carried on, and a great many people are reached in this way each year. The many letters of inquiry, as well as complaints, that come to the President and Secretary of this Society are an indication of the public interest. All complaints are carefully investigated and offenders against the law are reported to the game-wardens.

Our Society published a 'Year Booklet' which has proved a valuable aid in our work. This booklet contains, besides a variety of interesting articles on bird subjects, the lecture topics for the regular meetings of the ensuing year. All members, as well as many friends, are provided with copies. We have

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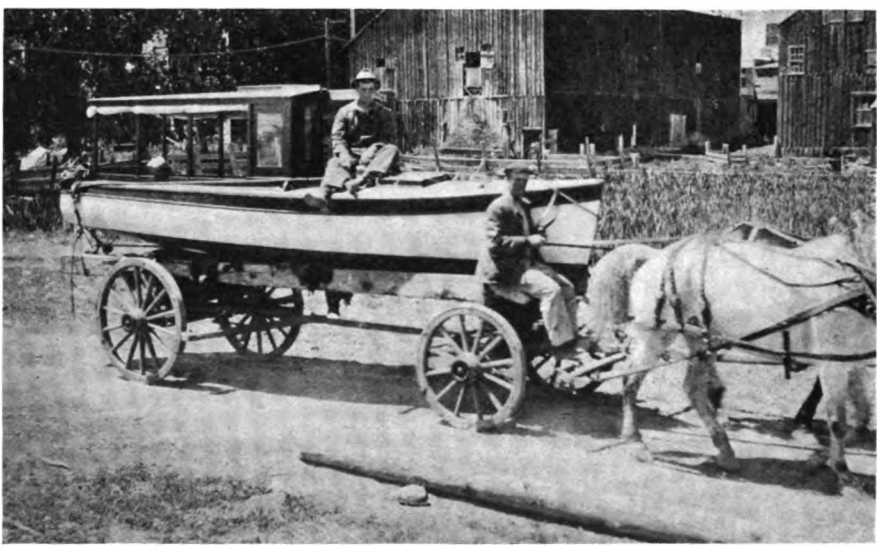
changed our meeting-place during the year. We now hold our gatherings in a beautiful room which the Ohio Mechanics' Institute has put at our disposal for that purpose.

With every encouragement and hope of greater success, we enter upon the work of the new year.—WILLIAM G. CRAMER, *Secretary*.

Oregon Audubon Society.—Interest in bird-protection throughout the state has not only continued, but increased, during the past year. More teachers and children are taking part in Audubon work by building bird-houses and feeding birds in winter. The plan of the Society for holding weekly meetings during the past year has been a very successful one.

Illustrated talks have been given by A. L. Campbell, William L. Finley, R. B. Horsfall and others. The idea of this course of talks through the year has been arranged largely for beginners in bird-study. The meetings have been under the direction of W. A. Eliot.



THE NEW AUDUBON PATROL BOAT "GREBE II" ON HER WAY TO KLAMATH LAKE, OREGON, FOR HER MAIDEN CRUISE.

At the legislative sessions held during the past year, no bills were introduced that were detrimental to the protection of wild birds. On the other hand, a bill was presented setting aside a large area, including the greater part of Multnomah County and part of Clackamas County, as a wild-game refuge. This bill passed without opposition and is now in effect. It is an important addition to the other state and Federal wild-bird reservations previously established.—Dr. EMMA J. WELTY, *Secretary*.

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Rhode Island Audubon Society.—The Audubon Society of Rhode Island has made no unusual effort in its bird-work during 1917. The following records for the year, however, show a steady and consistent effort to keep the cause of the birds before the minds of the people of Rhode Island, even in the midst of the added labors which the war is placing upon everyone.

The books of the circulating library of the Society have been used by 1,142 different individuals and have had a circulation of 6,003.

In coöperation with the National Association, 45 classes of Juniors, with a membership of 1,200, have been formed and renewed.

The Society has placed in the schools of the state 37 Audubon Bird-Charts, 10 Bird-Guides, 2 Flower-Guides, 1 Butterfly-Guide, 2 Tree-Guides, 1 Bird-House Guide, all of which become the property of the school-room and should continue to do good service in these rooms until worn out.

The Secretary and Librarian have given 59 bird-lectures during the year to a total of 12,034 individuals. This large record is due to the fact that the Secretary, as Curator of the Park Museum, gave a bird-talk to every grammar school in the city of Providence during the spring of 1917.

The Society conducted 12 field-trips for bird-study during the spring months.

A summary of the work of the Society over a period of years should be of interest to members of the Association:

For a period of six years, the books of the library have had a circulation of 36,176 among 7,834 persons.

In six years, the Secretary and Librarian have given 286 bird-lectures to 37,085 persons.

In six years, 298 Audubon Bird-Charts have been placed in the school-rooms of the state, and during the past three years, 49 volumes of Nature-Guides have been similarly placed.

During the past spring, the Park Museum, in coöperation with members of the Society, conducted a Bird-Migration Record for the state for the months of March, April, and May. Fourteen bird-observers from all sections of the state sent to the Museum a weekly record of their observations. The Museum expects to continue this work in succeeding years, so that the accumulated data received from these observers will eventually result in valuable state records. Already, some members of the Society have records of some years' standing. This is particularly true of Mr. Harry S. Hathaway, whose record covers a period of twenty-five years.—H. L. MADISON, *Secretary*.

West Virginia Audubon Society.—During the past year our Society has not accomplished so much for the good of the cause as could be desired, as general apathy has been prevalent for the past several months, and if we are to make good during the coming year it behooves us to engage in propaganda work as well as personal solicitation.

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The red-letter days for our Society during the year 1917 were marked by the entrance of Henry Oldys into our little mountain state last March as a lecturer for the National Association of Audubon Societies. Mr. Oldys lectured in the public schools of several cities throughout the state, and the results of his work were very gratifying. In Parkersburg, the home of our Society, 41 Junior Audubon Classes were organized, with an aggregate membership of 1,112 pupils.

During the early spring months we had several field excursions for the observation and identification of the spring migrants, which were very pleasant and profitable. Our most notable excursion was made on the afternoon of May 14, when 44 species of birds were identified, including several of the rare Warblers.

Our Society has consistently and persistently advocated a closed season for the Bob-white, to last for several years, in this state, but we have not yet succeeded in convincing our worthy legislators that such a course would be expedient or wise. But we have not lost hope that the worthy measure will finally be enacted.—(Miss) BERTHA E. WHITE, *Secretary*.

REPORTS OF AFFILIATED ORGANIZATIONS

The length of the reports of the National and State Audubon Societies necessitates deferring publication of the reports of our affiliated organizations until the January–February, 1918, issue of BIRD-LORE.

Reports from the following organizations will appear in that number:

Audubon Society of Sewickley Valley (Pa.); Audubon Society of the Pacific; The Bird Club of Long Island; Bird Conservation Club (Maine); Birdlovers' Club of Brooklyn (New York); Blair County (Pa.) Game, Fish and Forestry Association; Brookline (Mass.) Bird Club; Brush Hill (Mass.) Bird Club; Buffalo (N. Y.) Audubon Society; Burroughs Junior Audubon Society (Kingston, N. Y.); Cayuga (N. Y.) Bird Club; Columbus (Ohio) Audubon Society; Cumberland County (Maine) Audubon Society; Doylestown (Pa.) Nature Club; Englewood (New Jersey) Bird Club; Forest Hills Gardens (N. Y.) Audubon Society; Frankfort (Ky.) Bird Club; Glenville (W. Va.) Normal Bird Club; Hartford (Conn.) Bird-Study Club; Los Angeles (Cal.) Audubon Society; Maywood (Ill.) Bird Club; Meriden (N. H.) Bird Club; Minneapolis Branch, Minnesota Game-Protective League; Natural History Society of British Columbia (Victoria, B. C., Canada); Newburyport (Mass.) Bird Club; The North East (Pa.) Nature-Study Club; Pasadena (Cal.) Audubon Society; Port Huron (Mich.) Bird Club; Rhinebeck (N. Y.) Bird Club; Rockaway (N. Y.) Bird Club; Rumson (N. J.) Bird Club; Saratoga (N. Y.) Bird Club; Seattle (Wash.) Audubon Society; South Bend (Ind.) Humane Society; South Haven (Mich.) Bird Club; Spokane (Wash.) Bird Club; Vassar College (N. Y.) Wake-Robin Club; Vigo County (Ind.) Bird Club; Wellesley College (Mass.) Bird Club; Western Pennsylvania Audubon Society; Wild Life Protective Society of Milwaukee; Williamstown (Mass.) Bird Club; Winston-Salem (N. C.) Audubon Society; Wyncote (Pa.) Bird Club.

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JOHN H. KOCH & COMPANY, Certified Public Accountants
Liberty Tower, 55 Liberty Street, New York

NEW YORK, October 29, 1917.

THE AUDIT COMMITTEE,
National Association of Audubon Societies,
1974 Broadway, New York, N. Y.

Gentlemen:—In pursuance with engagement, we have made our customary examination of the books, accounts and records of the National Association of Audubon Societies for the year ended October 19, 1917, and present herewith the following Exhibits with Comments:

EXHIBIT A—BALANCE SHEET AS AT OCTOBER 19, 1917.
EXHIBIT B—INCOME AND EXPENSE ACCOUNT, GENERAL FUND.
EXHIBIT C—INCOME AND EXPENSE ACCOUNT, SAGE FUND.
EXHIBIT D—INCOME AND EXPENSE ACCOUNT, EGRET FUND.
EXHIBIT E—INCOME AND EXPENSE ACCOUNT, CHILDREN'S EDUCATIONAL FUND.
EXHIBIT F—INCOME AND EXPENSE ACCOUNT, DEPARTMENT OF APPLIED ORNITHOLOGY.
EXHIBIT G—STATEMENT OF RECEIPTS AND DISBURSEMENTS.

Submitting the foregoing, we are Very truly yours,

JOHN H. KOCH & CO.,
Certified Public Accountants.

The Report of the Treasurer of the National Association of Audubon Societies, for Year Ending October 19, 1917

Exhibit A

ASSETS

Cash in Banks and Office		$27,843 94
Furniture and Fixtures—		
Balance, October 19, 1916	$1,731 05	
Purchased this year	518 30	
	$2,249 35	
Less—Depreciation	224 93	
		2,024 42
Inventory of Plates, etc. (Nominal Value)		500 00
Bird Island Purchase, Orange Lake, Fla.		250 20
Buzzard Island, S. C.		300 00
Audubon Boats—		
Balance, October 19, 1916	$3,098 10	
Additions this year	0	
	$3,098 10	
Less—Depreciation	309 80	
		2,788 30
Amount carried forward		$33,706 86

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ASSETS, continued

Amount brought forward		$33 706 86
Investments, Endowment Fund—		
Bonds and Mortgages on Manhattan Real Estate	$387,100 00	
U. S. Mortgage & Trust Co. Bonds	3,000 00	
Manhattan Beach Securities Co	1,000 00	
		391,100 00
Investments, Mary Dutcher Memorial Fund—		
Bonds and Mortgages on Manhattan Real Estate		7,100 00
		$431,906 86

LIABILITIES

Endowment Fund—		
Balance, October 19, 1916	$387,259 89	
Received from Patron	1,000 00	
Received from Life Members	11,125 00	
Received from Gifts	300 00	
		$399,684 89
Mary Dutcher Memorial Fund—		
Balance, October 19, 1916		7.737 70
Special Funds—		
Mrs. Russel Sage Fund, Exhibit C	$852 53	
Egret Protection Fund, Exhibit D	870 15	
Children's Educational Fund, Northern States, Exhibit E.	16,541 69	
Department of Applied Ornithology, Exhibit F	118 99	
		16,440 32
Surplus—		
Surplus beginning of year	$5,996 85	
Balance from Income Account	2,047 10	
		8,043 95
		$431,906 86

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INCOME AND EXPENSE ACCOUNT—General Fund

EXPENSE

Exhibit B

Warden Services and Reservations—		
Salaries	$1,415 20	
Launch Expense	780 50	
Reservation Expenses	8 79	
		$2,204 49
Legislation—		
New York	$50 00	
Florida	65 48	
U. S. Migratory Bird Law	2,487 11	
California	200 00	
Massachusetts	1,050 00	
		3,852 59
Educational Effort—		
Administrative expenses	$7,340 00	
Field Agents, salaries and expenses	6,413 92	
Press information	50 22	
Bird-Lore, extra pages and Annual Report	1,927 99	
Printing, office and Field Agents	1,008 15	
Traveling local workers	83 10	
Electros and half-tones	607 92	
Library	101 17	
Slides and drawings	724 95	
Educational Leaflets	712 30	
Bird-Lore to members	3,225 52	
Bird Books	1,980 97	
Colored plates in Bird-Lore	1,553 75	
Outlines	545 25	
Field glasses	1,204 30	
Contribution to Florida Audubon Society	225 00	
Song-Bird Campaign, Posters, Circulars and Publicity	8,734 36	
Summer-school work	1,065 00	
Publicity	1,370 06	
Feeding birds during snowstorms	100 00	
		38,973 93
General Expenses—		
Office Assistants	$9,713 97	
Telegraph and telephone	236 22	
Postage	1,845 27	
Office and storeroom rents	1,945 00	
Motion pictures	151 38	
Legal services	215 00	
Auditing	125 00	
Envelopes and supplies	687 12	
Miscellaneous	814 37	
	$15,733 33	
Amount carried forward		$45,031 01

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INCOME AND EXPENSE ACCOUNT—General Fund, continued

Amount brought forward		$45,031 01
Expenses brought forward	$15,733 33	
General Expenses, continued—		
Cartage and expressage	333 35	
Insurance	130 30	
Electric light	78 85	
Sales Department expense	687 24	
Depreciation on boats	309 80	
Depreciation on office furniture	224 93	
Exchange on checks	43 15	
Annual Meeting expense	350 75	
Stencils, addressograph machine	75 78	
New Members Expense	6,999 93	
		24,967 41
Total Expenses		$69,998 42
Balance, Surplus for year (Exhibit A)		2,047 10
		$72,045 52

INCOME

Members' Dues		$20,110 00
Contributions		21,486 76
Interest from Investments		19,823 88
Sales—		
Educational Leaflets Sales	$5,149 96	
Field-Glasses	1,513 40	
Sale of Slides	494 82	
Bird-Lore Subscriptions	1,057 22	
Bird-book Sales	2,409 48	
		10,624 88
		$72,045 52

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MRS. RUSSELL SAGE FUND

INCOME AND EXPENSE ACCOUNT

Exhibit C

INCOME—		
Balance unexpended October 19, 1916	$4,123 87	
Junior Members' Fees	2,957 55	
		$7,081 42
EXPENSES—		
Administrative expenses	$600 00	
Printing leaflet units for Junior Members	2,181 56	
Field Agents, salaries and expenses	208 96	
Expressage	227 02	
Printing circulars	336 34	
Printing envelopes	186 14	
Postage on circulars and literature	1,850 00	
Bird-Lore, subscriptions for Junior Classes	689 08	
Stenographic and clerical work	845 39	
Office supplies	81 46	
Buttons for Junior Members	188 15	
Half-tones for publication	17 46	
Report and publicity	414 49	
Colored plates in Bird-Lore	106 96	
Miscellaneous	94	
	$7,933 95	
Deficit, October 19, 1917		852 53
	$7,933 95	$7,933 95

EGRET PROTECTION FUND

INCOME AND EXPENSE ACCOUNT

Exhibit D

INCOME—		
Balance unexpended October 19, 1916	$331 91	
Contributions	2,992 06	
		$3,323 97
EXPENSES—		
Egret Wardens and inspections	$2,442 81	
Miscellaneous	11 01	
	$2,453 82	
Balance unexpended October 19, 1917	870 15	
	$3,323 97	$3,323 97

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CHILDREN'S EDUCATIONAL FUND

INCOME AND EXPENSE ACCOUNT

Exhibit E

INCOME—		
Balance unexpended October 19, 1916	$9,274 25	
Contributions	30,000 00	
Junior Members' Fees	20,538 50	
Gift	10 00	
		$59.822 75
EXPENSES—		
Administrative expenses	$1,400 00	
Field Agents, salaries and expenses	3,566 68	
Stenographic and clerical work	3,933 74	
Office supplies	510 96	
Furniture and fixtures, purchase	58 00	
Expressage on literature	1,765 22	
Postage on circulars and literature	4,050 00	
Printing leaflet units for Junior Members	17,229 44	
Printed circulars to teachers	940 54	
Bird-Lore for Junior Classes	5,052 11	
Half-tones for publication	17 47	
Reports and publicity	1,410 83	
Buttons for Junior Members	1,104 15	
Colored plates in Bird-Lore	574 80	
Printed envelopes	424 62	
Office rent	975 00	
Miscellaneous	267 50	
	$43,281 06	
Balance unexpended October 19, 1917	16,541 69	
	$59,822 75	$59,822 75

DEPARTMENT OF APPLIED ORNITHOLOGY

INCOME AND EXPENSE ACCOUNT

Exhibit F

INCOME—		
Balance unexpended October 19, 1916	$423 98	
Contributions	2,450 00	
Earnings by H. K. Job from public lectures	550 58	
		$3,424 56
EXPENSES—		
Agent's salary and expenses	$3,418 58	
Motion-picture films	122 82	
Miscellaneous	2.15	
Deficit, October 19, 1917		118 99
	$3,543 55	$3,543 55

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STATEMENT OF RECEIPTS AND DISBURSEMENTS YEAR ENDING OCTOBER 19, 1917

Exhibit G

RECEIPTS—			
Income on General Fund		$72,045 52	
Endowment Fund		12,425 00	
Sage Fund		2,957 55	
Egret Fund		2,992 06	
Children's Educational Fund		50,548 50	
Department of Applied Ornithology		3,000 58	
Interest due October 19, 1916		120 00	
Total Receipts year ending October 19, 1917			$144,089 21
Cash Balance October 19, 1916			19,649 10
			$163,738 31
DISBURSEMENTS—			
Expenses on General Fund		$69,463 69	
Investment on Endowment Fund	$31,700 00		
Less—Amount received on account of Mortgages	23,000 00	8,700 00	
Expenses on Sage Fund		7,933 95	
Egret Fund		2,453 82	
Children's Educational Fund, Northern		43,281 06	
Department of Applied Ornithology		3,543 55	
Furniture Account		518 30	
Total Disbursements for year ending Oct. 19, 1917			$135,894 37
Cash Balance October 19, 1917			27,843 94
			$163,738 31

NEW YORK, October 29, 1917.

DR. F. A. LUCAS,
Acting President,
National Association of Audubon Societies,
New York City.

Dear Sir:—We have examined reports submitted by John H. Koch & Company, certified public accountants, on the accounts of the National Association of Audubon Societies for the year ending October 20, 1917. The accounts show balance sheets of October 20, 1917, and income and expense account for the year ending the same date. Vouchers and paid checks have been examined by them in connection with all disbursements, and also the securities in the Safe Deposit Company.

Yours very truly,

J. A. ALLEN,
T. GILBERT PEARSON,
Auditing Committee.

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LISTS OF MEMBERS OF AND CONTRIBUTORS TO THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES

BENEFACTOR

*Albert Wilcox.....1906

FOUNDER

Mrs. Russell Sage.....1910

PATRONS

William P. Wharton.....1909
Miss Heloise Meyer.....1912
Anonymous.....1915
Gen. Coleman du Pont.....1917

LIFE MEMBERS

Abbott, Clinton G.....1910
Adams, Edward D.....1916
Adams, Mrs. George E.....1912
Adams, Thomas M.....1916
Agnew, Miss Alice G.....1916
Ahl, Mrs. Leonard.....1915
Alms, Mrs. Frederick H.....1913
Ames, Miss Mary S.....1916
Ams, Charles M.....1916
Andrews, Mrs. E. B.....1914
Andrews, J. Sherlock.....1916
Armstrong, Dr. S. T.....1913
Arnold, Benjamin Walworth.....1914
Arnold, Edward W. C.....1916
Ash, Mrs. Charles G.....1913
Auchmuty, Mrs. R. T.....1913
Ault, L. A.....1917
Austen, Mrs. Isabel Valle.....1914
Ayres, Miss Mary A.....1915
Babcock, Mrs. Perry H.....1912
Bacon, Mrs. Robert.....1912
Bancroft, Wm. P.....1906
Barbey, Henry G.....1914
*Barnes, Miss Cora F.....1908
Barr, Mrs. Cornelia Basset.....1917
Barr, James H.....1916
Barrows, Ira.....1917
Bartlett, Miss Florence.....1916
Bartol, Mrs. J. W.....1915
Bates, Mrs. Ella M.....1914
*Bates, Isaac C.....1910
Battelle, J. G.....1917
Batten, George.....1911
Baylies, Mrs. N. E.....1912
Beebe, Mrs. J. Arthur.....1907
Beech, Mrs. Herbert.....1914
Bell, Louis V.....1917
Bennett, Mrs. Alice H.....1914
Berwind, John L.....1915
Bigelow, Dr. Wm. Sturgis.....1912
Bingham, Miss Harriet.....1907
Black, R. Clifford.....1916
Blake, Mrs. Francis.....1916
Blanding, Gordon.....1917
*Bliss, Miss Catharine A.....1911
Bliss, Robert Woods.....1915
Bliss, Mrs. Wm. H.....1912
Boardman, Miss Rosina C.....1916
Boettger, Robert.....1916
Bolling, Mrs. Raynal C.....1909
Borden, Miss Emma L.....1914
Borden, Mrs. William.....1917
Bowdoin, Miss Edith G.....1911
Bowdoin, Mrs. Temple.....1911
Bowles, H. L.....1917
*Bowman, Miss Sarah R.....1905
Brackenridge, George W.....1916
Brewster, Frederick F.....1916
Brewster, William.....1905
Bridge, Mrs. Lidian E.....1907
Brooker, Charles F.....1917
Brooks, A. L.....1906
Brooks. Mrs. Everett W.....1907
Brooks, Miss Fanny.....1913
Brooks, Gorham.....1911
Brooks, Peter C.....1911
Brooks, Shepherd.....1907
Brooks, Mrs. Shepherd.....1906
Brown, Mrs. Addison.....1917
Brown, Miss Annie H.....1914
Brown, T. Hassall.....1913
Browning, J. Hull.....1905
Burnham, William.....1916
Burr, I. Tucker.....1915
Butler, Mrs. Paul.....1916
Butterworth, Frank S., Jr.....1915
Butterworth, Mrs. William.....1916
Cabot, Mrs. A. T.....1913
Camden, J. N.....1914
Camden, Mrs. J. N.....1914
Campbell, Miss Helen Gordon.....1909
Campbell, John Boylston.....1916
Carew, Mrs. Lucie B.....1917
Carhartt, Hamilton.....1916

*Deceased

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LIFE MEMBERS, continued

Carr, Gen. Julian S. 1907
Cary, Miss Kate 1916
Case, Miss Louise W. 1914
Chahoon, Mrs. George, Jr. 1917
Chapin, Chester W. 1910
Chapman, Clarence E. 1908
Chase, Mrs. Philip A. 1913
C——, E. S. 1913
Childs, Eversley 1916
Childs, John Lewis 1905
Clark, George H. 1916
Clark, Hopewell 1917
Clarke, Mrs. W. N. 1912
Clementson, Mrs. Sidney 1916
Clow, William E. 1917
Clyde, William P. 1905
Cockcroft, Miss Elizabeth V. 1917
Colburn, Miss Nancy E. 1915
Colgate, Henry A. 1917
Colgate, Richard M. 1916
Colgate, William 1917
Collins, Thomas H. 1916
Comstock, Miss Clara E. 1914
Converse, Mrs. Costello C. 1915
Converse, E. C. 1916
Coolidge, J. Randolph. 1913
Coolidge, Oliver H. 1912
Coolidge, T. Jefferson 1907
Cotton, Miss Elizabeth A. 1915
Covell, Dr. H. H. 1916
Cowl, Mrs. Clarkson 1916
Crabtree, Miss Lotta M. 1912
Crocker, Mrs. Emmons 1912
Crosby, Maunsell S. 1905
Cross, Mrs. R. J. 1915
Crozier, Mrs. J. Lewis 1908
Cudworth, Mrs. F. B. 1911
Curtis, Mrs. Anna Shaw 1907
Cutting, Mrs. W. Bayard 1913
Cuyler, Miss Eleanor deGraff 1917
Dahlstrom, Mrs. C. A. 1916
Dane, Edward 1912
Dane, Ernest Blaney 1913
Dane, Ernest Blaney, Jr. 1912
Dane, Mrs. E. B. 1913
Daniell, J. T. 1917
Davis, David D. 1911
Davis, William T. 1910
Davol, Miss Florence W. 1916
Day, Mrs. Frank A. 1915
Dean, Charles A. 1916
Deering, Charles 1913
Deering, James 1917
Depew, Chauncey M., Jr. 1915
DeWolf, Wallace L. 1917
Dick, Albert B. 1917
Dietz, Charles N. 1917
District of Columbia Audubon Society 1915
Dodge, Cleveland H. 1916
Doepke, Mrs. William F. 1916
Dommerich, Otto L. 1917
Dows, Tracy 1914
Draper, Mrs. Henry 1913
Drummond, Miss Mary 1915
Ducharme, William H. 1917
Duer, Mrs. Denning 1915
duPont, Alexis I. 1917
duPont, H. A. 1917
duPont, P. S. 1917
Earle, Carlos Y. Poitevent 1905
Earle, Miss E. Poitevent 1905
Eastman, George 1906
Eddison, Charles 1916
Edgar, Daniel 1908
Elliot, Mrs. J. W. 1912
Ellis, Ralph 1917
Ellsworth, James W. 1915
Emmons, Mrs. R. W., 2nd 1908
Endicott, H. B. 1908
Erbe, Gustav 1917
Everett. Miss Dorothy B. 1916
Falk, Herman W. 1917
Farrel, Mrs. Franklin 1913
F——, E. D., In Memoriam 1914
Farwell, John V. 1917
*Farwell, Mrs. John V., Jr. 1909
Fay, Dudley B. 1913
Fay, Mrs. Flora Ward 1905
Fenno, Mrs. L. Carteret 1913
Field, Cortlandt deP. 1915
Fincke, William Mann, Jr. 1916
Flattery, Miss Anne L. 1917
Fleischmann, Julius 1913
Flint, Mrs. Jessie S. P. 1913
Follansbee, B. G. 1917
Foot, James D. 1907
Forbes, Mrs. William H. 1914
Forbush, Edward Howe 1910
Ford, Mrs. Bruce 1917
Ford, James B. 1913
Frackelton, Mrs. R. J. 1917
Freeman, C. H. 1917
Freeman, Mrs. James G. 1915
French, Miss Caroline L. W. 1911
*Frothingham, Howard P. 1905
Frothingham, John W. 1913
Gallatin, F., Jr. 1908
Gardner, Mrs. John Lowell 1917
Garneau, Joseph 1913
Gavit, E. Palmer 1917
Gazzam, Mrs. Antoinette E. 1908
Gifford, Dr. Harold 1917
Gifford, Mrs. Robert L. 1908
Gladding, Mrs. John Russell 1914
Glazier, Henry S. 1916
Godfrey, Mrs. Abbie P. 1917
Goodwin, Walter L., Jr. 1914
Gould, George H. 1917
Grant, W. W. 1910
Gray, Miss Elizabeth F. 1915
Graydon, Mrs. Clendeny 1913
Greene, Stephen, 2nd 1917
Greenway, Mrs. James C. 1912
Grew, Mrs. H. S. 1913

*Deceased

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LIFE MEMBERS. continued

Griswold, Mrs. William E. S. 1915
Guggenheim, Hon. Simon 1917
Hæhnle, Reinhold 1912
Haggin, Mrs. J. B. 1917
Haggin, L. T. 1917
Hamlin, Mrs. Eva S. 1916
Hancock, Mrs. James Denton 1916
Hanna, Mrs. H. M., Jr. 1916
Harbeck, Mrs. Emma Grey 1916
Harrah, Mrs. Charles J. 1913
Harral, Mrs. Ellen W. 1914
Harrison, Alfred C. 1914
Hasbrouck, H. C. 1915
Haskell, J. Amory 1916
Havemeyer, Mrs. H. O., Jr. 1907
Hawkins, Rush C. 1913
Hayes, Edmund 1917
Hazard, Mrs. J. N. 1916
Hearst, Mrs. P. A. 1909
Hemenway, Augustus 1915
Hemenway, Mrs. Augustus 1905
Hentz, Leonard L. 1914
Higginson, Mrs. James J. 1916
Hill, Miss Clara A. 1917
Hill, Hugh 1915
Hill, Mrs. Susie R. 1917
Hitch, Mrs. Frederic Delano 1915
Hoe, Richard M. 1917
Hoff, Mrs. Grace Whitney 1915
Hoffman, Samuel V. 1907
Hopewell, Frank 1911
Hornbrooke, Mrs. Frances B. 1913
Hostetter, D. Herbert 1907
Houghton, Miss Elizabeth G. 1914
Howard, Miss Edith M. 1915
Hubbard, Joshua C., Jr. 1915
Hubbard, Richard 1915
Hunnewell, H. S. 1905
Hunnewell, Walter 1915
Hunter, Anna F. 1917
Huntington, Archer M. 1905
Jackman, Edwin S. 1916
Jackson, Mrs. James 1908
Jamison, Margaret A. 1914
Jenkins, Mrs. Joseph W. 1916
Jennings, Oliver G. 1917
Jones, Jerome 1915
Jones, Mrs. Lawrence 1917
Joslyn, Mrs. George A. 1916
Keen, Miss Florence 1916
Keith, Mrs. D. M. 1916
Kent, Sherman 1917
Kettle, Mrs. L. N. 1913
Kidder, Nathaniel T. 1905
Kilmer, Willis Sharpe 1907
King, Miss Ellen 1915
Kingsbury, Miss Alice E. 1916
Kinney, Morris 1913
Kittredge, Miss Sarah N. 1914
Knight, Miss A. C. 1913
Kuser, John Dryden 1911
Lane, Benjamin C. 1909
Lang, Albion E. 1916
Langdon, Woodbury G. 1916
Lansing, Mrs. G. Y. 1916
Lawrence, Emben 1916
Lawrence, Rosewell B. 1916
*Lawrence, Samuel C. 1905
Lawson, Victor F. 1917
Lefferts, M. C. 1914
Logan, Stuart 1917
Loring, Mrs. W. Caleb 1913
Low, Miss Nathalie F. 1916
Loyd, Miss Sarah A. C. 1914
McClymonds, Mrs. A. R. 1914
McConnell, Mrs. Annie B. 1908
McGraw, Mrs. Thomas S. 1908
McKim, Mrs. Haslett 1917
McLane, Guy R. 1916
Mackey, Clarence H. 1908
MacLean, Mrs. Charles F. 1916
Mallery, Mrs. Jane M. 1914
Markle, John 1917
Marmon, Mrs. Elizabeth C. 1916
Marshall, Louis 1916
Marshall, Thomas K. 1915
Mason, Miss Ellen F. 1913
Mason, Miss Fanny P. 1912
Mason, George Grant 1914
Massachusetts Audubon Society 1915
Mead, Mrs. Charles Marsh 1915
Meloy, Andrew D. 1910
Merrill, Miss F. E. 1913
Merrill, Mrs. Mary E. 1917
Merriman, Mrs. Daniel 1915
Mershon, Hon. W. B. 1914
Meyer, Mrs. August R. 1917
Meyer, Charles F. 1917
Meyer, Miss Heloise 1910
Miles, Mrs. Flora E. 1916
Miller, Mrs. E. C. T. 1916
Mitchell, Mrs. John G. 1916
Mitchell, Miss Mary 1916
Moore, Clarence B. 1909
Moore, Mrs. William H. 1916
Morgan, Miss Caroline L. 1917
Morison, Robert S. 1916
Morton, Miss Mary 1906
Mulliken, Alfred H. 1917
Murphy, Franklin 1909
Neave, Miss Jane C. 1916
Nevins, Mrs. Davis 1916
Newberry, W. F. 1916
Newcomer, Waldo 1917
New Jersey Audubon Society 1913
Newman, Mrs. R. A. 1914
Nichols, Mrs. William G. 1915
North Carolina Audubon Society 1905
Noyes, Mrs. David A. 1916
O'Brien, Mrs. Michæl W. 1917
Oliver, Mrs. James B. 1916
*Osborn, Mrs. Eliza W. 1906
Osborn, Prof. Henry Fairfield 1917
Osborn, Mrs. William C. 1916

*Deceased

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LIFE MEMBERS, continued

Paine, F. W. 1917
*Palmer, Mrs. William H. 1912
*Palmer, William J. 1906
Parker, A. H. 1908
Parker, Edward L. 1909
Parsons, Miss Mary W. 1913
Peabody, George A. 1914
Pearson, T. Gilbert 1905
Peck, Mrs. Walter L. 1909
Perkins, Miss Ellen G. 1914
Perkins, Mrs. George C. 1913
Peterson, Arthur 1916
Phelps, Mrs. J. W. 1914
Phillips, Mrs. Eleanor H. 1908
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INDEX TO ARTICLES IN VOLUME XX
BY AUTHORS

Abbott, Clinton G., Photograph by, 107; Secretary's Reports, 106, 502.
Allen, Arthur A., Photographs by, 86, 87, 321; Secretary's Reports, 85, 488; When the North Wind Blows, 399.
Allen, A. F., see Stephens, Dr. T. C.
Allen, Clarence J., Acting Secretary, Report of, 509.
Allen, Glover M., Boston Region, 358, 427.
Allen, Mary Pierson, Christmas Census, 35.
Almy, Madeline E., Secretary, Reports of, 117, 509.
Andrews, Theodore, Christmas Census, 40.
Androbette, Norman, The Crow, 448.
Anthony, Mrs. Joseph, see Bicknell, Mrs. F. T.
Arnold, Dr. W. W., A Bird Hospital, 259.
Arnold, W. D. I., President, Report of, 490.

Bagg, John S. and Aaron C., Christmas Census, 28.
Bailey, Henry Turner, The 'Stake-Driver' Again, 295.
Baldwin, Lizzie Thomas, Poem by, 172.
Bay, H. W., Paul Bittenbender, and Alvan Wagner, Christmas Census, 37.
Beaumier, Wilfred, Bird-Houses, 315.
Beck, Herbert H., Elmer E. Kautz, and Abraham Beck Miller, Christmas Census, 37.
Beck, H. H., Wild-Fowl of the Susquehanna Flats, 357.
Beck, Rollo H., Photographs of Falkland Island Bird-Life, 1.
Beckwith, Helen, Corresponding Secretary, Report of, 493.
Beebe, Ralph, Summer Records of Winter Birds in the Upper Peninsula of Michigan, 291.
Beers, Mrs. H. F., Secretary-Treasurer, Report of, 500.
Benefiel, Dr. A. H., and Walter Bruce, Christmas Census, 48.
Bennett, Elizabeth, Secretary, Reports of, 100, 497.
Berger, Mrs. C. L., Report of, 492.
Bergtold, Dr. W. H., Christmas Census, 47; Denver Region, 24, 233, 306, 432.
Berlin, Mrs. D., A True Bluebird Story, 318.
Betts, Mary, The Tanagers, 449.
Bicknell, E. P., Christmas Census, 31.
Bicknell, Mrs. F. T., Photograph by, 97.
Bicknell, Mrs. F. T., Mrs. Robert Fargo, Dr. E. A. Dial, Mrs. W. H. Martz, Helen S. Pratt, Mrs. Joseph Anthony, L. E. Wyman, Mrs. C. H. Hall, and Alfred Cookman, Christmas Census, 49.
Biersach, Adolph, Secretary, Report of, 118.
Bittenbender, Paul, see Bay, H. W.
Blackinton, Katrine, Our Winter Bird Neighbors, 422.
Blair, Frank D., Secretary, Reports of, 102, 497.
Blanchard, George C., Christmas Census, 26.
Blincoe, Ben J., Christmas Census, 41.
Blodget, George L., Christmas Census, 26.
Bohlman, H. T., Photograph by, 468.
Bomburger, A., Secretary, Report of, 485.
Bonnig, C., The Bandit: A Street Scene from Birddom, 298.
Boulton, R. W., Jr., Christmas Census, 36.
Bourne, Thomas L., Christmas Census, 32.
Bowdish, Beecher S., Secretary, Report of, 482.
Bowen, Alice B., Secretary, Report of, 77.
Bowers, John H., See Townsend, Manley B.
Brainerd, Barron, and Haskell B. Curry, Christmas Census, 27; see Talbot, L. R.
Breder, C., Photography at Feeding-Stations, 140.
Brewster, William, A Blameless Cat, 207.
Bridge, Edmund and Lidian E., Christmas Census, 28.
Bridge, Lidian E., and Annie M. Cobb, Christmas Census, 27.
Briggs, Lawrence P., Birds I Have Seen, 189.
Bright, Harry G. Secretary, Report of, 94.
Brintnall, Mrs. A. W., Our Summer Boarders, 421.
Brown, Elizabeth G., Report of, 501.
Brown, Roy M., Christmas Census, 40.
Bruce, Walter, President, Report of, 506; see Benefiel, Dr. A. H.
Bruen, Frank, see Smith, Elbert E.
Bryant, Harold C., Bird Horizons in the San Francisco Bay Region, 420.
Burnham, Stewart H., Are Starlings as Hardy as English Sparrows? 354.
Burns, Mary, Our Birds, 448.
Burtch, Verdi, A Day's Sport with the Red-backs and Greater Yellow-legs, 335; A Wild Duck Trap, 410; Notes on the Tree Swallows, 133; The Warbler Wave of the Spring of 1917, at Branchport, N. Y., 154.
Butler, Mrs. Jefferson, President, Report of, 89.
Butterwick, Claude A., Christmas Census, 38.
Button, Lily Ruegg, Christmas Census, 47.

Calvert, E. W., A Census from France—An Addition to the Eighteenth Christmas Census, 154.
Campbell, Mamie L., A. L. Campbell, and O. I. Gale, Christmas Census, 48.
Carlson, Fred C., Sidney E. Ekblaw, and Ed. L. Ekblaw, Christmas Census, 41.
Carpenter, Jessie I., A Blackbird Chorus, 160.
Carter, Alice M., see Linton, M. Albert.
Carter, John D., see Linton, M. Albert.
Cartlidge, P. Gregory, How I Mothered A Pair of Hummingbirds, 273.
Case, Clifford M., Christmas Census, 29.
Caskey, R. C., see Fairbank, Edward.
Chapman, Frank M., Editorials by, 56, 169, 238, 309, 363, 435; Notes on the Plumage of North American Birds, 19, 153, 222, 290, 349, 416; Notes from a Traveler in the Tropics: Down the Coastline to Cuba, 393; Reviews by, 53, 54, 167, 168, 235, 307.
Chase, Richard M., and George P. Freeland, Christmas Census, 34.
Cherrie, George K., Christmas Census, 27.
Childs, Helen P., Secretary, Report of, 474.
Chute, Miss Eleanor, see Woodbury, Mrs. Roland.
Cleaves, Howard H., Christmas Census, 33.
Clise, James W., Nesting Records, 376.
Coast, Oscar R., A Santa Barbara Hummer, 291.
Coates, Chas. P., Bird-Houses for a City Park, 184.

Digitized by Google

Compton, M. I., Red Crossbills in Seattle, 418.
Congdon, Frances, and Mabel L. Potter, Christmas Census, 28.
Cookman, Alfred, see Bicknell, Mrs. F. T.
Cox, Elizabeth, Christmas Census, 37.
Cox, Richard, Christmas Census, 49.
Cramer, William G., Secretary, Report of, 482.
Crane, Mrs. G. H., Corresponding Secretary, Reports of, 96, 493.
Curry, Haskell B., see Brainerd, Barron.

Dadisman, A. J., Christmas Census, 39; Feeding the Blue Jays, 352.
Dana, Elizabeth A., Secretary, Report of, 92.
Danforth, Ralph E. and Stuart E., Christmas Census, 36.
Daniels, Edward S., and Geo. F. Tatum, Yellow Warbler *vs.* Cowbird, 226.
Daniels, Edward S., Photograph by, 128.
Danner, May S., and Mary King, Christmas Census, 42.
Davis, Dorcas, Birds, 378.
Dawson, Giles E., and William Leon Dawson, Christmas Census, 50.
Deeter, Anna P., and Mary E., Christmas Census, 38.
Denny, Mary C., Birds of the Far West, 376.
Dent, Paul, and Dent Jokerst, Christmas Census, 45.
Des Brisay, Mrs. M. B., Our Summer Visitors—A True Story of Some Nova Scotian Birds, 301.
Dial, Dr. E. A., see Bicknell, Mrs. F. T.
Dimock, Leila Allen, A Junior Class in the Mountains, 323.
Doll, Caroline O., Secretary, Report of, 485.
Donaghho, Walter, Secretary, Report of, 484.
Dougherty, Margaret, Nature-Study and Audubon Society, 186.
Dowd, Susan C., Means of Securing Interest in Bird-Study, 313.
Downhour, Elizabeth, Secretary, Report of, 477.
Dreier, Theodore, Christmas Census, 30.
DuBois, A. D., Christmas Census. 47.
DuBois, Gerard, A. Feathered Patient, 317.
DuFour, see Van Arsdale, Mrs. Wm.
Dunbar, Lula, Mildred Elizabeth Lean, and Robert Dunbar, Jr., Christmas Census, 43.
Dunham, Lieut, Carroll R., and Lieut. Ludlow Griscom, U. S. R., Christmas Census, 46.
Dury, Francis, The Signal, 449.
Dwight, Dr. Jonathan, Reviews by, 235, 362, 433.

Eaton, E. E., see Eddy, William H.
Eaton, Warren F., Christmas Census, 27.
Eddy, William H., and E. E. Eaton, Christmas Census, 32.
Edson, Wm. L. G., and R. E. Horsey, Christmas Census, 34.
Egbert, Rose M., The Language of Robins, 300.
Ehinger, C. E., Christmas Census, 38.
Ekblaw, Ed. L., see Carlson, Fred C.
Ekblaw, Private George E., Christmas Census, 45.
Ekblaw, Sidney E., A Record of the Bald Eagle from Champaign Co., Illinois, 421; The Blue Grosbeak in Illinois, 421.
Elitharp, Nina Ballard, Secretary, Report of, 508.
Evans, Wm. Bacon, see Linton, M. Albert.
Evans, W. Conroy, A Winter House Wren, 159; From Sunset to Sunrise with the Martins During the Flocking-Time, 296.
Ewing, Gifford, My First Bird Tenants, 316.

Fair, Wm. W., Christmas Census, 36.
Fairbank, Edward, and R. C. Caskey, Christmas Census, 35.
Fargo, Mrs. Robert, see Bicknell, Mrs. F. T.
Farquhar, Arthur, and Charles Weiser, Christmas Census, 38.
Farrar, Mayme, Corresponding Secretary, Report of, 505.
Fearing, Albert S., How I First Got BIRD-LORE, 183.
Ferguson, Walker, Christmas Census, 44.
Ferman, R. H., see LaDue, H. J.
Finley, William L., Field Agent, Annual Report, 467.
Fisher, M. L., Christmas Census, 42.
Fisher, Mr. and Mrs. G. Clyde, and Ruth Anna, Christmas Census, 30.
Floyd, Charles B., President, Reports of, 81, 486; Bird-Walks, 279.
Flynn, Agnes, The Story of a Rose. 449.
Fogg, Ada Odiorne, President, Report of. 89.
Foltz, H. W., Secretary, Report of, 119.
Foot, Nathan Chandler, President, Report of, 81.
Forbush, Edward H., General Agent, Annual Report, 469. Photograph by, 380.
Ford, Royal W., see Smith, Elbert E.
Fordyce, George L., C. A. Leedy, Willis H. Warner, and Volney Rogers, Christmas Census, 43.
Foust, Elizabeth, Attracting Birds to My Home, 372.
Freeland, George P., see Chase, Richard M.
Freeman, Mrs. John, Mockingbird in Iowa, 352.
Fuertes, Louis Agassiz, Colored Plates by, facing 1, 125, 201, 269, 329, 393; Drawings by, 395, 396.

Gabrielson, I. N., and Kalmbach, E. R., Christmas Census, 39.
Gaines, Mrs. John, Secretary, Report of, 106.
Gale, O. I., see Campbell, Mamie L.
Galloway, Mary, A Family of Brown Thrashers, 299.
Ganier, A. F., Christmas Census, 40.
Gardner, Georgia B., Notes from Canandaigua, N. Y., 351.
Gardner, Mrs. Arthur F., The Wren, A Housebreaker, 299.
Gavit, Joseph, Poem by, 234.
Getchell, Ella, An Oregon Oriole, 354; The Black-chinned Hummingbird, 292.
Gibson, Dallas Vernett, Old Mother Robin and Her Babes, 188.
Gibson Hamilton, see Van Dyke, Tertius.
Glover, Mrs. W. B., Secretary, Report of, 472.
Gloyd, Howard K., Memories of a Rainy Day, 356.
Goelitz, Walter A., A Unique Wren Nest, 295.
Gooch, John H., Christmas Census, 41.
Goold, Hattie, Secretary, Report of, 501.
Gorham, Mrs. D. W., The Birds I Watch from My Window, 419.
Gormley, Liguori, see Macnamara, Charles, 25.
Graves, Frances Miner, Christmas Census, 29.
Green, Margaret S., Secretary, Reports of, 108, 502.
Greenleaf, Miles, L. O. Horsky, W. W. Marsh, and S. R. Towns, Christmas Census, 47.
Gregory, Florence L., Secretary, Report of, 113.
Grew, Helen, Nestling Chipping Sparrows, 250.
Grey, Clifford R., References of Cliff Swallows in Nesting, 447.
Griswold, George T., Christmas Census, 29.
Groneman, Henry, Photographs by, 325.

Digitized by Google

Hall, Mrs. C. H., see Bicknell, Mrs. F. T.
Hall, W. W., Jr., Interesting Experiences, 250.
Hallett, George H., Jr., see Linton, M. Albert.
Handley, Harry and Chas O., Christmas Census, 39.
Hannum, W. E., Christmas Census, 40.
Hansen, Harold E., see Squires, W. A.
Harris, Harry, Kansas City Region, 165 431.
Hartshorn, H. I., Sparrow Hawk and Starling, 225.
Hatfield, Edgar I., President, Report of, 95.
Hathaway, Harry S., Christmas Census, 29.
Haworth, George D., and H. N. Henderson, Christmas Census, 43.
Hay, Helen J., Word from Scranton, Pa.
Haynes, Louise deF., Winter Mockingbirds, 159.
Heacock, Esther, Corresponding Secretary, Report of, 121; Secretary, Report of, 510.
Henderson, H. N., see Haworth, George D.
Hill, F. Blanche, Secretary, Reports of, 115, 507.
Hill, Leonice, An Observation at First Hand, 66.
Hiller, G., A Collapsible Martin-House, 131.
Hiller, Marcia B., Secretary, Report of, 492.
Hillyer, Emily, The Cardinal, 448.
Hix, George E., Christmas Census 31.
Hoge, Milton H., Christmas Census, 33.
Hollister, N., A Sanctuary within a Sanctuary, 158.
Horlick, Bessie, see Van Arsdale, Mrs. Wm.
Horner, Charles, School Letters from Lawndale, Pa., 182.
Horsey, R. E., see Edson, Wm. L. G.
Horsfall, R. Bruce, Colored Plates by, facing 190, 252, 380.
Horsky, L. O., see Greenleaf, Miles.
Houghton, Clarence, see Lawrence, Joseph S.
Howe, H. M., An Industry Awaits a Captain, 160.
Humason, Melicent Eno, The Whip-poor-Will, 214.
Hunter, Katherine Upham, Spring Notes from a New Hampshire Farm, 154.
Hyatt, Cameron, Corresponding Secretary, Report of, 508.

James, Elizabeth F., Secretary, Report of, 92.
Jewett, Hibbard J., Memories of the Passenger Pigeon, 351.
Job, Herbert K., Annual Report, 469.
Jokerst, Dent, see Dent, Paul.
Jones, Lynds, Oberlin Region, 22, 232, 431.
Jones, Henrietta O., Corresponding Secretary, Report of, 488.

Kalmbach, E. R., see Gabrielson, I. N.
Kautz, Elmer E., see Beck, Herbert H.
Kellogg, Clinton E., Secretary-Treasurer, Report of, 487.
Kerth, H. M., Photograph by, 382.
Kimes, Edward D., Christmas Census, 42.
King, Anne Woodward, and Beth Rankin, A Southern Christmas Census, 67.
King, Mary, see Danner, May S.
Knevels, Mary Eastwood, Secretary, Reports of, 93, 491.
Kuser, John Dryden, Christmas Census, 34.

LaDue, H. J., and R. H. Ferman, Christmas Census, 44.
Langdon, Roy M., Secretary, Reports of, 99, 495.
Lange, D. The Evening Grosbeak in Minnesota in Midsummer, 227.
Lastreto, C. B., President, Report of, 74.
Latham, Roy, John Treadwell Nichols, and Robert Cushman Murphy, Christmas Census, 31.
Latham, Roy, Nighthawk in New York City, 353.
Latshaw, Mrs. John T. Secretary, Report of, 507.
Laughlin, J. A., Christmas Census, 45.
Lawrence, Joseph S., M. D., and Clarence Houghton, Christmas Census, 32.
Lean, Mildred Elizabeth, see Dunbar, Lula.
Lear, Amelia, Communication from Canada, 249.
Lear, George, Christmas Census, 36.
Learned, Agnes M. A Rural Junior Audubon Society, 64.
Leedy, C. A., see Fordyce, George L.
Leister, C. W., A Scene from the House-Life of the Chestnut-sided Warbler, 297; The Black-billed Cuckoo, 277.
Lepper, Henry W., see Stockbridge, Charles A.
Lewis, Clark L., Jr., and Edward G. Nichols, Christmas Census, 35.
Lewis, Norman, A Word of Appreciation and a Testimony to the Value of Bird-Study, 64; A Three-toed Woodpecker, 181.
Lindsay, Mrs. Eugene D., Pine Siskins near Edmonds, Wash. 227.
Linton, M. Albert, Anna A Mickle, John D. Carter, Alice M. Carter, Wm. Bacon Evans, and George H. Hallett, Jr., Christmas Census, 35.
Long, William H., Christmas Census, 33.
Loveland, David, A Bird Story, 318.
Lundwall, Nelson, Christmas Census, 47.
Lunger, John B. Secretary, Reports of, 109, 504.

Macartney W. N., Golden-eye Duck Carrying Young, 418.
MacIntyre, Emma May, The Lure of the Feathered Songsters, 178.
Macnamara, Charles, and Liguori Gormley, Christmas Census, 25.
Madison, H. L. Secretary, Report of, 483.
Marsh, W. W., see Greenleaf, Miles.
Marshall, Elizabeth Lawrence, Notes on Robins' Nests, 158.
Marshall, Louise Foucar, A Tragedy, 338.
Martz, Mrs. W. H., see Bicknell, Mrs. F. T.
Mauterstock, Mrs. Jennie H., President, Report of, 85.
May, John B., M. D., Christmas Census, 27; Some Ruffed Grouse Notes, 161.
McAtee, Waldo, and Edward Preble, Christmas Census, 39.
McCamant, Tom, My Back-Yard Feeding Station, 183.
McConnell, Harry B., John Worley, and Raymond Timmons, Christmas Census, 42.
McConnell, Mrs. Annie, Winter Mockingbirds, 160.
McConnell, Thos. L., High Mortality among the Purple Martins in Western Pennsylvania during April, 1917, 130; see Savage, L. F.
McCulloch, Bessie, Poem by, 65.
McIlwraith Ornithological Club, Christmas Census, 26.
Mellott, S. W., Christmas Census, 38.
Mengel, Mr. and Mrs. G. Henry, Christmas Census, 38.
Merrill, Janet, Vacation Observations, 68.
Mesirow, Mrs. Mildred, Report of, 115.
Mickle, Anna A., see Linton, M. Albert.
Miller, Abraham Beck, see Beck, Herbert H.
Miller, Ansel B., Christmas Census, 38; Photograph by, 272; Robin Nesting on Ground, 302.
Miller, W. DeW., Christmas Census, 36.
Miner, Mr. and Mrs. Leo D., and Raymond W. Moore, Christmas Census, 39.
Moore, Mrs. Katherine N., Acting President, Report of, 111.

Digitized by Google

Moore, Mrs. Lora D., Secretary, Report of, 103.
Moore, Raymond W., see Miner, Mr. and Mrs. Leo D.
Moorhead, Alice, Secretary, Report of, 104.
Morgan, May, Christmas Census, 44.
Morris, Elizabeth, Our Bird Exhibit, 371.
Morse, H. G., and D. C. Reed, Christmas Census, 43.
Munger, Edwin H., Christmas Census, 29.
Munroe, Mrs. Kirk, Secretary, Report of, 489.
Murphy, Mildred H., My Friend, Jim Crow, 319.
Murphy, Robert Cushman, see Latham, Roy.
Myers, Harriet Williams, Secretary, Report of, 472.

Nation, Harold T., Honorary Secretary, Report of, 499.
Neff, Johnson, Christmas Census, 45.
Nichols, E. G., and L. N. Nichols, Christmas Census, 33.
Nichols, Edward G., see Lewis, Clark L.
Nichols, John Treadwell, see Latham, Roy.
Nichols, John Treadwell, Bird-Banding, 426; BIRD-LORE'S Nineteenth Christmas Bird Census, 416; New York Region, 359, 428; Reviews by, 433.
Nicholson, G., Junior Audubon Work and the English Sparrow, 68.
Nicholson, Nevin G., Cormorant in Western Pennsylvania, 180.
Nolting, Frieda E., Amateur Photography, 373.
Norton, Arthur H., Field Agent, Annual Report, 465.
Novak Frank, Christmas Census, 29.

Oberholser, Harry C., The Migration of North American Birds, 16, 145, 219, 286, 345, 415; Washington Region, 22, 164, 232, 303, 360, 428.
Oldys, Henry, 'Pauperizing' the Birds, 9.
O'Neal, R. F., Some Town Martins, 127.
Osborn, William P., Christmas Census, 34.
Otto, N. C., Cardinal in Wisconsin, 160.

Packard, Winthrop, Field Agent Annual Report, 463; Secretary-Treasurer, Report of, 478.
Palmer, Dr. T. S., Reviews by, 54, 168, 236, 307, 362, 434.
Pangburn, Clifford H., Christmas Census, 29.
Parker, John G., Birds and Bees, 293.
Pattee, Mrs. Bertha Tracer, Secretary, Report of, 476.
Pearson, Haydn S., Maine Notes, 418.
Pearson, T. Gilbert, Annual Report, 455; Editorials by, 70, 194, 256, 322, 384, 450; Least Tern, 380; Photographs by, 385, 386, 456, 462; Slate-colored Junco, 252; The Raven, 190.
Pell, Walden and S. Morris, Christmas Census, 33.
Perkins, Edward H., Christmas Census, 28.
Perry, Elton, Photograph by, 398.
Pershing, H. A., Secretary, Reports of, 112, 505.
Petry, Dorothea K., The Starling Pushing North, 182.
Philo, Walter, Christmas Census, 34.
Pierce, Mrs. Clark, Northern Shrike Visits a Feeding-shelf, 423.
Pinkham, Roger D., Actions of a Chimney Swift, 447.
Pittman, H. and E., Photographs by, 55, 409.
Poarmann, J. H., and Hugo H. Schroder, Christmas Census, 44.
Potter, Julian K., Christmas Census, 35; Philadelphia Region, 21, 164, 230, 303, 359, 428; Spotted Sandpiper Colonies, 282.
Potter, Mabel L., see Congdon, Frances.
Powers, Arthur, President, Report of, 95.
Pratt, Helen S., see Bicknell, Mrs. F. T.
Preble, Edward, see McAtee, Waldo.
Prescott, Hubert, How to Make and Erect Bird-Houses, 138.
Pullen, H. F., Vice-President, Report of, 103.
Pumyea, Mr. and Mrs. Nelson D. W., Christmas Census, 36.

Quarles, E. A., Cornell to Teach Conservation of Wild Life, 71.

Raker, Mary E., Birds of the Far West, 374; Christmas Census, 48; The Bohemian Waxwings in Oregon, 187.
Raymond, Olney M., Christmas Census, 33.
Reading, Gertrude, Report of, 480.
Reed, D. C., see Morse, H. G.
Reeves, Wynell, Home Observations in the South, 185.
ReShore, Grace, Why Not Establish a Purple Martin Colony This Year? 125.
Rice, Helen M., Christmas Census, 43.
Rice, Ward J., Christmas Census, 42.
Richards, Elizabeth, Secretary, Report of, 487.
Ringwalt, A. A., see Stockbridge, Charles A.
Ripple, Harry H., Christmas Census, 42.
Roads, Letha E., Christmas Census, 42.
Robbins, C. A., see Tyler, Dr. Winsor M.
Robbins, Frank, see Tyler, Dr. Winsor M.
Roberts, George, Observations on a Food-Shelf, 423.
Roberts, Thos. S., M. D., Minneapolis Region, 23, 165, 232, 305, 360, 430; House Sparrows Robbing Robins, 354; The Oven-bird in Minnesota, 329.
Robinson, Donald H., Poem by, 444.
Robinson, Virginia C., Christmas Census, 45.
Roehner, Theodore, Christmas Census, 31.
Rogers, Charles H., BIRD-LORE'S Eighteenth Christmas Census, 25; New York City Region, 21, 163, 230; see Young, John P.
Rogers, Volney, see Fordyce, George L.
Roland, Conrad K., American Egret in Pennsylvania, 426; Christmas Census, 37.
Rose, Mrs. M. G., Secretary, Report of, 73.
Ross, Dr. and Mrs. Lucretius H., Christmas Census, 26.
Russell, Private John W., Christmas Census, 40.
Rustin, Eline, The Robin, 182.

Sadler, Nettie M., Christmas Census, 34.
Samek, Blanche, Spring Migration in the 'Ramble,' Central Park, New York City, 224.
Saunders, Aretas A., Christmas Census, 30.
Saunders, Margery, Anthony Saunders, and F. A. Saunders, Christmas Census, 34.
Saunders, Wm. E., A New Feeding-slab, 14.
Sauvage, Noel, A Feeding-Station, 446.
Savage, L. F., and Thos. L. McConnell, Christmas Census, 37.
Sawyer, Edmund J., Photograph by, 297; Poems by, 69, 136, 213; Swallows Flocking, 296.
Schafer, James D., Christmas Census, 41.
Schoonhoven, George O., Secretary Report of, 78.
Schroder, Hugo H., Christmas Census, 44; see Poarmann, J. H.
Scoville, George, and Theodore Spencer, Christmas Census, 37.
Seelig, Grace, Secretary, Report of, 491.
Shaw, Henry, A Song Sparrow in January, 187.
Shaw, Mr. and Mrs., J. E. Norton, Christmas Census, 28,

Digitized by Google

Sheldon, Israel R., Some High-School Methods of Bird-Study, 62.
Sheridan, J. J., The Size of Rooms in Martin-Houses, 130.
Sihler, P. William, Christmas Census, 41.
Slate, John D., Christmas Census, 48.
Smith, E. E., Christmas Census, 43.
Smith, Elbert E., Royal W. Ford, and Frank Bruen, Christmas Census, 29.
Smith, O. Warren, A Noteworthy Contest, 188.
Smith, Wilbur F., Holbœll's Grebe in Connecticut, 143; Photographs by, 202, 204, 205, 206, 207.
Spencer, Theodore, see Scoville, George.
Squires, W. A., C. R. Thomas, and Harold E. Hansen, Christmas Census, 50.
Stalker, Alex., Christmas Census, 47.
Stanwood, Maud, How we Made a Bird-Bath, 228.
Steadman, Marjorie, see Woodbury, Mrs. Roland.
Steele, P. H., Christmas Census, 47.
Stelzer, Theo. G., see Van Arsdale, Mrs. Wm.
Stephens, Dr. T. C., and A. F. Allen, Christmas Census, 44.
Stevens, C. A., Christmas Census, 47.
Stockbridge, Charles A., A. A. Ringwalt, and Henry W. Lepper, Christmas Census, 41.
Stone, C. F., Photograph by, 13.
Stone, Lucy B., Secretary, Reports of, 88, 489.
Styer, Elizabeth P., Winter Mockingbirds, 159.
Swope, Dr. Eugene, Field Agent, Annual Report, 464.

Talbot, L. R., and Barron Brainerd, Christmas Census, 27.
Tatum, E. S., see Daniels, E. S.
Terry, H. J., Secretary-Treasurer, Report of, 480.
Thomas, C. R., see Squires, W. A.
Thomas, John W., Secretary, Report of, 117.
Thompson, A. H., An Audubon Library Exhibit, 316.
Timmons, Raymond, see McConnell, Harry B.
Tindle. Mildred A., Secretary, Report of, 115.
Tompkins, Earle, An Exercise in Bird-Study, 66.
Tonseth, Helen, D., Christmas Census, 48.
Towne, S. R., see Greenleaf, Miles.
Townsend, Alice Greenough, Secretary, Report of, 76.
Townsend, Manley B., and John H. Bowers, Christmas Census, 26.
Townsend, Manley B., Secretary, Report of, 481.
Tully, Thomas, The Rabbit, 448.
Turner, Mrs. G. M., Retiring Secretary, Report of, 82.
Tuttle, F. May, Snowy Owl in Iowa, 426.
Tuttle, H. E., Notes on the Nesting of the Nashville Warbler, 269; Some Notes on the Ruffed Grouse, 342.
Tyler, Dr. Winsor M., Boston Region, 21, 163, 230, 302.
Tyler, Dr. Winsor M., C. A. Robbins, and Frank Robbins, Christmas Census, 28.

Upton, Lucy H., Migrating Bobolinks in Atlanta, 181; Notes on the Flocking of Swifts in Fall, 447.

VanArsdale, Mrs. Wm., Bessie Horlick, L. DuFour, and Theo. G. Stelzer, Christmas Census, 44.
VanDyke, Tertius, and Hamilton Gibson, Christmas Census, 36.
Vibert, C. W., Christmas Census, 30.
Vinal, William Gould, The Blue Jay, 245; Photograph by, 247.
Volkman, Paul, Poem by, 178.
VosBurgh, Geo. W. H., Booming of the American Bittern, 224.

Wagner, Alvan, see Bay, H. W.
Walbridge, Caroline C., Secretary, Reports of 110, 505.
Walter, Alice Hall Editorials by, 57, 170, 239, 312, 364, 436; The Meat-Supply of the World, 438.
Walter, Frances K., Secretary, Reports of, 105, 502.
Wambole, John, A Good School-room Method, 183.
Warner, Willis H., see Fordyce, George L.
Watson, C. G., Notes from London, Ont., 229.
Watson, John D., Christmas Census, 41.
Way, W. Scott, Secretary, Report of, 476.
Weatherill, Charlotte, Secretary, Report of, 491.
Webster, Leila J., Seen from the Window of a Rural School in Vermont, 445.
Weiser, Charles, see Farquhar, Arthur.
Welty, Dr. Emma J., Secretary, Report of, 483.
Wetmore, Alexander, Christmas Census, 45, 46.
White, Mrs. Kelton E., Secretary, Report of, 504.
Whitlock, Howard E., Secretary, Report of, 486.
Wicks, Gertrude P., Secretary, Report of, 497.
Wiggins, Mabel R., Christmas Census, 30.
Wilcox, LeRoy, Christmas Census, 32.
Willcuts, Indianola, Suggestions for Bird and Arbor Day, 173.
Williams, Belle, Secretary, Report of, 484.
Williams, E. W., My Nuthatch Tenants and a Pair of Red-headed Ruffians, 217.
Wilson, Etta S., Christmas Census, 43.
Winters, John H., President, Report of, 79.
Wood, Mrs. Wm. S., Our Back-Yard Visitors, 155.
Wood, Sheridan F., Christmas Census, 42.
Woodbury, Mrs. Roland, Eleanor Chute, Mrs. James Steadman, and Majorie Steadman, Christmas Census, 26.
Woodward, Magnolia, Secretary, Report of, 475.
Worden, Mona, Christmas Census, 27.
Worley, John, see McConnell, Harry D.
Wright, Mabel Osgood, Three Years After—Some Notes on Birdcraft Sanctuary, Fairfield, Conn., 201; Homeland and the Birds, 406.
Wright, Horace W., Robins Repeatedly Using the Same Nest, 156.
Wyatt, Elizabeth, How We Study Birds in Our Room, 445.
Wyman, L. E., see Bicknell, Mrs. F. T.

Young, G. S., The Blue Jay Will Murder, 295.
Young, John P., and Charles H. Rogers, Christmas Census, 34.

Ziegler, Edward K., Christmas Census, 37.

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INDEX TO CONTENTS

Advisory Council, BIRD-LORE'S, 51.
Albatross, Black-browed, figured, 2.
Ani, figured, 396.
Arizona, 48.
Arkansas, 45.
Arthur's 'Birds of Louisiana,' reviewed, 235.
Audubon Bulletin, noticed, 308.
Audubon Societies, Annual Report of the National Association of, 453; State, Affiliated with National Association, 511.
Auk, The, reviewed, 235, 362, 433.

Beebe's 'Jungle Peace,' reviewed, 433; 'Tropical Wild Life in British Guiana,' reviewed, 167.
Bicknell, Mrs. F. T., Photograph of, 98.
Bird Almanac, figured, 84.
Bird Census, BIRD-LORE'S Eighteenth Christmas, 25; Nineteenth, 416.
Bird Clubs, 73–123, 458; Reports of, 472.
Bird-Conservation, see Bird-Protection.
Bird-Day Book, noticed, 308.
Bird-Houses, 130, 131, 133, 134, 315; figured, 107, 121, 128, 132, 161, 185, 207, 314, 315.
Bird-Protection, 63, 70, 71, 77, 79, 101, 194, 198, 257, 264, 265, 309, 323, 387.
Bird-Study, 62, 64, 66, 73–123, 245, 246, 256, 264, 313.
Bird's Bath, 228, 265; figured, 498.
'Birds of America,' reviewed, 53.
Birds' Songs, 311.
Bittern, American, 224, 295, 360; Least, 229, 360.
Blackbird, Red-winged, 160, 230, 232, 354; figured, 337; Rusty, 230, 232, 428.
Bluebird, 24, 163, 230, 299, 318, 427; figured, 121.
Bluebird, The, noticed, 237.
Bobolink, 181.
Bob-white, 164, 304.
Bunting, Indigo, 304; Snow, 22, 23, 164.
Buzzard, Turkey, 394.

California, 59, 50, 96, 105, 420, 472, 492, 501.
Cardinal, 160, 165, 229.
Catbird, 164, 231.
Cats, 264, 326.
Census, BIRD-LORE'S Eighteenth Christmas, 25; Nineteenth, 416.
Chickadee, 423; figured, 400; Black-capped, 163; Brown-capped, 164.
Colorado, 47.
Condor, The, reviewed, 54, 168, 236, 307, 362, 434.
Connecticut, 29, 95, 143, 472, 493, 500.
Coot, American, 231.
Cormorant, 180, 396; Double-crested, 361.
Cowbird, 226, 232; eggs, figured, 226.
Crane, Sandhill, figured, 409.
Creeper, Brown, 21, 165, 428; figured, 142.
Crossbill, Red, 25, 164, 418; White-winged, 25, 164.
Cuckoo, Black-billed, 21, 277; figured, 277, 278; Great Cuban, 397.

Dove, Mourning, 166, 230, 232, 394.
Duck, American Golden-eye, 165, 231, 418; American Scaup, figured, 411, 413, 414; Baldpate, 231; Black, 165, 231; nest and eggs, figured, 341; Buffle-head, 165; Canvasback, 165, 231, 304; figured, 410, 411, 412; Greater Scaup, 165, 231; Green-winged Teal, 231; Lesser Scaup 165, 231; Mallard, 165; Pintail, 231, 304; figured, 468; Redhead, 165, 231; Ring-necked, 231; Ruddy, 165; Shoveller, 231; Wood, 432.

Eagle, Bald, 421, 429; Golden, 352.
Egret, American, 198, 359, 384, 426, 429; Reddish, 384; figured, 385; nest and eggs, figured, 385.
El Honero, reviewed, 237.

Feeding Birds, 14, 140, 183, 352, 423, 446; figured, 107.
Field Agents, 457; Reports of, 453.
Finch, House, 234, 338; Purple, 230, 304.
Florida, 475, 489.
Flicker, figured, 158, 230; Red-breasted, figured, 261.
Flycatcher, Crested, 304; Great-crested, 428; figured, 207; Least, 304; Olive-sided, 429.
Frigate Bird, figured, 395, 396.
Fulmar, Giant, figured, 6.

Georgia, 40.
Gnatcatcher, Blue-gray, 22, 304, 351.
Goldfinch, 428; Arkansas, 432; Mexican, 432.
Goose, Canada, 163, 432.
Goshawk, 21, 22, 25, 163.
Grackle, Boat-tailed, 394; Bronzed, 232, 358 427, 431, 432; Great-tailed, 384; nest, figured, 386; Purple, 230, 231, 359, 429.
Grassquit, 397.
Grebe, Holbœll's, 143; figured, 144, 413; Horned, 164, 360; Pied-billed, 22, 360, 429.
Grosbeak, Black-headed, figured, 259; Blue, 421, 431; Evening, 163, 227, 291; Pine, 164; Rose-breasted, 304, 305; figured, 321.
Grouse, Pinnated, figured, 102; Ruffed, 23, 161, 342; figured, 162, 343, 492.
Gull, Bonaparte's, 304, 361; Dolphin, figured, 4; Herring, 22, 233, 359, 428; Iceland, 25; Laughing, 396.

Harper's 'Twelve Months with the Birds and Poets,' reviewed, 167.
Hawk, American Rough-legged, 25, 234; Broad-winged, 164, 429; Cooper's, 164; Duck, 230, 394; Ferruginous Rough-legged, 25; Marsh, 25, 230; figured, 336, 337; Red-shouldered, 164; Red-tailed, 164, 429; Rough-legged, 22; Sharp-shinned, 164, 428; Sparrow, 225, 394.
Heron, Black-crowned Night, 384; Blue, 166; Great Blue, 231; Great White, 394; Green, 429; Little Blue, 359; Little Green, 394; Louisiana, 384, 394; Night, 359; Ward's 384; nest, figured, 386; Yellow-crowned Night, 394.
Herrick's 'Audubon the Naturalist,' reviewed, 53.
Hummingbird, figured, on nest, 292; Black-chinned, 292; Calliope, figured, 261.

Idaho, 47.
Illinois, 41, 99, 421, 476, 491, 495.
Indiana, 112, 115, 477, 505, 507.
Iowa, 44, 352, 426.

Jay, Blue, 166, 245, 246, 248; figured, 272, 353, 295, 352; Canada, figured, 247.
Junco, 427; Gray-headed, 233, 432; Slate-colored, 25, 429, 431; figured, 13, 122, 206, 254, facing 252.

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Kentucky, 41, 95.
Killdeer, 22, 230, 232.
Kingfisher, 166; Belted, 232.
Kinglet, Golden-crowned, 163, 165, 304.

Langdon, Roy M., Photograph of, 496.
Lark, Bleached Horned, figured, facing, 329; 347; Breeding Areas of the American Races of the Horned, 346; California Horned, 347; Chihuahua Horned, 347; Desert Horned, 345; Horned, 165, 231, 233, 345, 349, 430; figured, facing 329; Hoyt's Horned, 345; Island Horned, figured, facing 329; Magdalena Horned, 347; Merrill's Horned, 347; Mojave Horned, 347; Montezuma Horned, 347; Pallid Horned, 345; Prairie Horned, 164, 231, 345, 349, 400; figured, facing, 329; Ruddy Horned, 347; figured, facing 329; Saskatchewan Horned, 345; Scorched Horned, 347; Streaked, 347; Texas, 345;
Legislation, 70, 263, 309, 322, 387.
Longspur, 25; Lapland, figured, 401.
Lucas, Dr. Frederic A., Photograph of, 454.

Magpie, American, figured, facing 393; 415, 416; Yellow-billed, figured, facing 393; 415.
Maine, 26, 77, 89, 418, 465.
Man-o'-war Bird, see Frigate Bird.
Martin, Cuban, 150; Gray-breasted, 150; Purple, 126–132, 147, 232, 296, 360, 429, 430, 431; Western, 148.
Maryland, 38.
Massachusetts, 27, 28, 80, 81, 103, 117, 119, 463, 478, 486, 509.
McMahon, Walter Freeman, Obituary of, 452.
Meadowlark, 22, 164, 232, 233; Cuban, 397; Eastern, 397; Western, figured, 260.
Merganser, American, 165; Hooded, 165; Red-breasted, 165, 304.
Michigan, 43, 89, 106, 113, 291, 480, 506.
Migratory Bird Law, see Legislation; Treaty Act, 387.
Miller's 'Birds of Lewiston-Auburn (Maine), and Vicinity,' reviewed, 307.
Minnesota, 23, 44, 227, 305, 329, 497.
Missouri, 45, 480, 504.
Mockingbird, 159, 160, 306, 352, 394.
Montana, 47.

Nebraska, 46, 47.
New Hampshire, 26, 100, 154, 481, 497.
New Jersey, 34, 35, 36, 92, 109, 115, 482, 504, 507.
New York, 30, 31, 32, 33, 34, 78, 82, 85, 93, 106, 108, 110, 115, 154, 351, 486, 487, 488, 491, 492, 501, 502, 505.
Nighthawk, figured, 285; 353, 359.
North Carolina, 40.
North Dakota, 47.
Nuthatch, 420; Red-breasted, 21, 164, 165, 427, 428, 429, 431; White-breasted, 218, 422; figured, 510.

Ohio, 42, 43, 88, 464, 482, 490.
Ontario, 25, 26, 229.
Oregon, 48, 187, 483.
Oriole, Baltimore, 304, 427 429; Bullock's, 306; Oregon, 355.
Osprey, American, 304
Oven-bird, 329.
Owl, Gray Screech, figured, 67; Great Horned, 22, 23, 25, 163, 232; Longeared, 22; Richardson's, 291; Saw-whet, 163, 352; Screech, figured, 374; Short-eared, 166; Snowy, 24, 55, 163, 166, 426.

Patterson's 'How to Have Bird Neighbors,' reviewed, 168.
Parrot, White-crowned, 397.
Pearsons' 'Tales from Birdland,' reviewed, 235.
Pelican, Brown, 194, 394, 396; figured, 456; nest, figured, 462.
Penguin, figured, 3; Jackass, 7, 8.
Pennsylvania, 36, 37, 73, 79, 90, 104, 118, 121, 180, 426, 485, 490, 501, 510.
Pewee, Wood, 306.
Phainopepla, 222; figured, facing, 201.
Phœbe, 231, 232, 303.
Pigeon, Kelp, see Sheathbill; Passenger, 11, 351.
Pipit, American, 21, 231.
Plover, Ring-neck, 359; Upland, 303.
Plumage Law, Pennsylvania, 263.
Prairie Chicken, figured, 102.

Rail, Virginia, 304.
Raven, Northern, 190; figured, facing 190.
Redpoll, 25, 164, 165, 229, 291.
Redstart, 20, 303; American, 429.
Reports of Affiliated Organizations, 73–123.
Rhode Island, 28, 29, 483.
Robin, 25, 156, 158, 166, 230, 231, 234, 300, 302, 354, 358, 427, 431, 432; figured, 205.

Sanctuaries, Bird, see Bird Protection.
Sanderling, 361.
Sandpiper, Least, 22, 259, 361, 430; Pectoral, 232, 429; Red-backed, figured, 335; Solitary, 304, 361; Spotted, 282, 306, 361; nest and young, figured, 283.
Sapsucker, Yellow-bellied, 23, 232, 427.
Season, The, 21, 163, 230, 302, 358, 427
Sheathbill, figured, 5.
Shrike, California, 288; Island, 288; Loggerhead, 288, 290, 394; figured, facing, 269; Migrant, 232, 288; Northern, 21, 23, 25, 163, 164, 401; figured, 402, 403, 423; Southern Loggerhead, 288; White-rumped, 288.
Siskin, Pine, 22, 25, 227.
Skimmer, Black, 384.
Snipe, Wilson's, 166, 232, 361, 304.
Solitaire, Townsend's, 233.
South Carolina, 265, 484.
Sparrow, Bachman's, 305; Chipping, 230, 231, 232, 427; figured, 398; Clay-colored, 25; English, 68, 354; Field, 163; Fox, 21, 23c, 232, 431; Henslow's, 304; House, 354; Lincoln's, 304, 432; Savannah, 230, 304, 428; Song, 187, 230, 428; figured, 136; Swamp, 232; Tree, 163, 165, 432; figured, 206, 404; Vesper, 230, 232, 304; Western Tree, 25; White-crowned, 22; White-throated, 163, 360, 427, 428, 431.
Starling, European, 225, 352, 354, 429.
Swallow, Bank, 296, 304, 359; Barn, 150, 296, 304, 432; European Chimney, 152; Rough-winged, 204, 296; Tree, figured, 133, 134, 135, 296, 304; White-bellied, 359.
Swift, Chimney, 22, 431.
Swope, Dr. Eugene, Photograph of, 465.

Tanager, Cooper's, 145; Hepatic, figured, facing, 125; 147, 153; Louisiana, 18, 19; Scarlet, figured, facing, 1; 16, 19, 304; Summer, figured, facing, 125; 145, 153.
Teal, Blue-winged, 303, 432; Green-winged, 430.
Tennessee, 40, 475.
Tern, Caspian, 305; Least, 380; figured, 380; nest and eggs figured, 382; Black, 428, 429.
Texas, 46, 384.
Thrasher, Brown, figured, 204, 300; 232, 239; Sage, 233.

Digitized by Google

Thrush, Hermit, 163, 431; Olive-backed, 304, 305, 431.
Titlark, 428.
Titmouse, Tufted, figured, 141.
Towhee, 232.
Townsend's 'In Audubon's Labrador,' reviewed, 307.
Trafton's 'The Teaching of Science in the Elementary School,' reviewed, 307.
Turnstone, Ruddy, 361.

Vermont, 26.
Vireo, Philadelphia, 304; Plumbeous, 306; Solitary, 304; Warbling, 427; Yellow-throated, 304, 427.
Virginia, 39.
Vulture, Black, figured, 386; Turkey, 232.

Warbler, Audubon's 25; Bay-breasted, 303, 304, 431; Black and White, 21, 303; Blackburnian, figured, 154; Black-poll, 303, 427, 428, 429; Black-throated Blue, 21, 303; Black-throated Green, 303, 431; Blue-winged, 304; Canada, 303; Cape May, 21, 303; Chestnut-sided, 297, 303; figured, 298; Connecticut, 429; Kentucky, 304, 305; Macgillivray's, 306, 432; Magnolia, 303; Myrtle, 21, 166, 302, 303, 427, 428, 429, 431; Nashville, 269, 270, 271, 304; Prairie, 229; 396; Prothonotary, 304, 360; Tennessee, 304; Virginia, 306; Wilson's, 304; Yellow, 226, 303; Yellow Palm, 230, 302, 303, 427; Yellow-throated, 396.
Washington, 48, 111, 113, 227, 505, 506.
Water-thrush, Louisiana, 304, 361; Northern, 304.
Waxwing, Bohemian, 165, 187, 219, 223; figured, facing 201; Cedar, 21, 163, 220, 223; figured, facing 201.
West Virginia, 39, 484.
Whip-poor-will, 214; figured, 215, 216.
Wisconsin, 44, 509.
Woodcock, 21.
Woodpecker, American Three-toed, 352; Downy, 10, 23, 420, 423; figured, 405; Hairy, figured, 405, 432; Red-bellied, 351, 397; Red-headed, 22, 166, 218, 428.
Wren, Carolina, 304, 352; Bewick's, 431; House, 159, 232, 303, 306; nest, figured, 295; Long-billed Marsh, 360.

Yellow-legs, Greater, 335; figured, 336, 337; Lesser, 304, 430, 429.

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January-February, 1918

CONTENTS

	PAGE
GENERAL ARTICLES	
Frontispiece in Color. Scarlet and Louisiana Tanagers.....*Louis Agassiz Fuertes*..	
Photographs of Falkland Island Bird-Life.....*Rollo H. Beck*..	1
'Pauperizing' the Birds.....*Henry Oldys*..	9
A New Feeding Slab. Illustrated.....*Wm. E. Saunders*..	13
Camera Portraits of the Junco.....*C. F. Stone*..	15
The Migration of the Scarlet and Louisiana Tanagers.....*H. C. Oberholser*..	16
Notes on the Plumage of the Scarlet and Louisiana Tanagers.....	19
THE SEASON. V. October 15 to December 5.....	21
Winsor M. Tyler; Chas. H. Rogers; Julian K. Potter; Harry C. Oberholser; Lynds Jones; Thos. S. Roberts; W. H. Bergtold.	
BIRD-LORE'S EIGHTEENTH CHRISTMAS CENSUS.....	25
BIRD-LORE'S ADVISORY COUNCIL.....	51
BOOK NEWS AND REVIEWS.....	53
Birds of America; Herrick's 'Audubon'; The Ornithological Magazines.....	
Snowy Owl—Photograph.....*H. H. Pittman*..	55
EDITORIAL.....	56
THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT.....	57
A Step Forward, *A. H. W.*; Junior Audubon Work; For and From Adult and Young Observers.	
THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT.....	70
A Warning!; Cornell to Teach Conservation of Wild Life; Bird Lectures; Reports of Affiliated Societies.	

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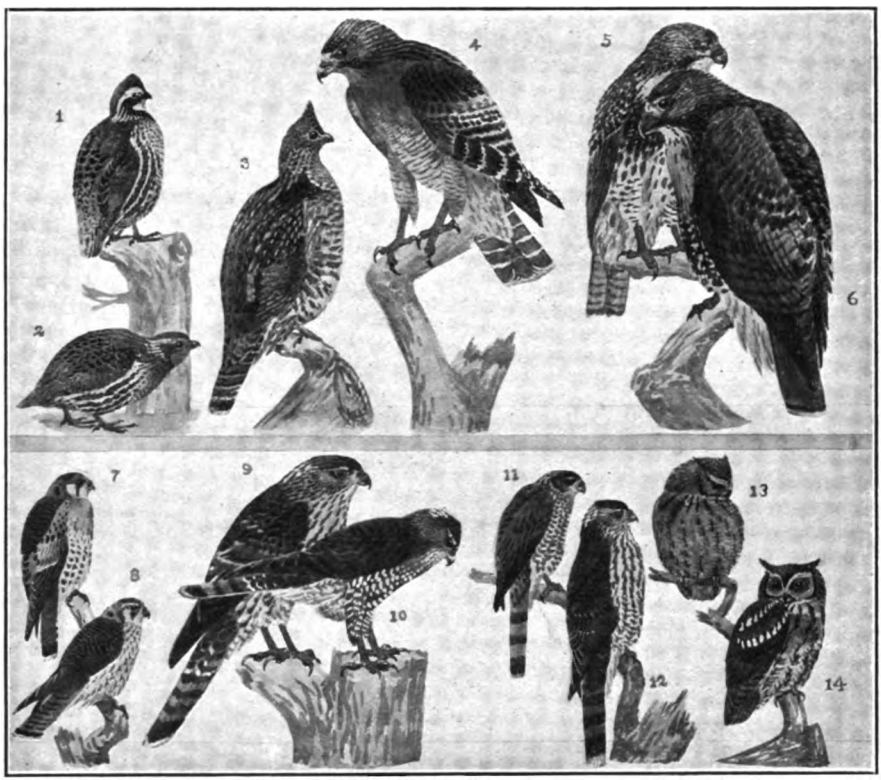

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1. SCARLET TANAGER, Adult male
2. SCARLET TANAGER, Adult male molting
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4. SCARLET TANAGER, Female
5. WESTERN TANAGER, Male
6. WESTERN TANAGER, Female

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Bird-Lore

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OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XX JANUARY—FEBRUARY, 1918 No. 1

Photographs of Falkland Island Bird-Life

By ROLLO H. BECK

FOR the past five years Rollo H. Beck has been collecting and studying marine birds along and off the coasts of southern South America for Frederick F. Brewster and Dr. L. C. Sanford. His collections are now deposited in the American Museum of Natural History, and in the November, 1917, number of the 'Journal' of that institution he begins a recountal of his experiences by an exceedingly interesting description of his visit to the great bird colonies of the Falkland Islands.

Although these islands are treeless, they nevertheless possess a few species of land-birds. Our own House Wren is represented by a closely related species. There are also a Thrush about the size of our Robin, a Pipit, and several Sparrows, all exactly or essentially like their representatives in the neighboring parts of South America.

It is, however, chiefly as a resort of sea-birds that the Falkland Islands are known to ornithologists. Penguins, Cormorants, Ducks, and Geese of several species abound here, and there are Albatrosses, Fulmars and Skuas.

Beck landed at Port Stanley, the only town in the group, in October, 1915, at the beginning of the subantarctic spring. From this point, he writes that "it is possible to mount a horse and visit three species of Penguins on their nesting-ground and return the same day. . . ."

From Port Stanley, Beck went by sloop to the doubtless well-named Bleaker Island, about 75 miles farther south.

This island, he states, "is about twelve miles long by one wide and is devoted wholly to sheep-raising, supporting about three thousand sheep." Here he found the Gentoo Penguins landing on the south side of the island, walking a mile over their accustomed path, passing at times through flocks of feeding sheep —a strange association—to their nests within a few hundred yards of the water, but on the opposite side of the island from that on which they landed.

Mr. Beck's article is illustrated with a large number of admirable photographs, several of which, thanks to his courtesy and that of the American Museum 'Journal,' we are permitted to reproduce in BIRD-LORE.—EDITOR.

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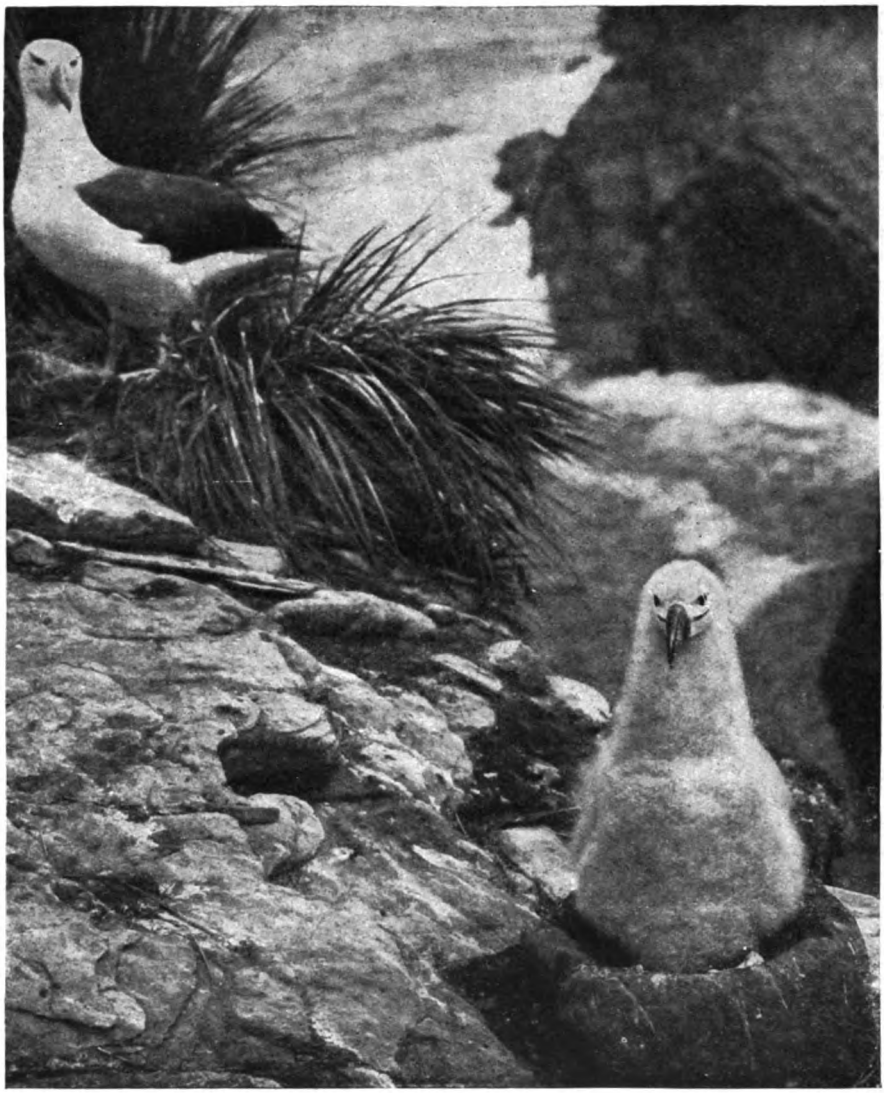

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NESTING-SITE OF THE BLACK-BROWED ALBATROSS

From the time that a steamer leaves Valparaiso on the west coast on its return voyage to Europe around the southern shores of South America and up as far as Buenos Aires on the east coast, there is probably not a day during the winter season that Albatrosses may not be seen from its decks. While the magnificent Wandering Albatross, with his incomparable flight, is often seen, the commonest species is the Black-browed Albatross. There are several colonies of the Black-browed Albatross to be found in the Falkland Islands, and one or two about Cape Horn. The illustration shows a typical nest placed hundreds of feet above the tumultuous sea, close to the edge of a cliff on West Point Island in the Falklands. The bowl-shaped nest of the Albatross resembles that of the Flamingo, being built mostly of mud picked up near-by. Many nests are used year after year and are built up gradually to a considerable height. The young Albatross grows slowly, and it is some months before it can step from its nest and sail away over the ocean.

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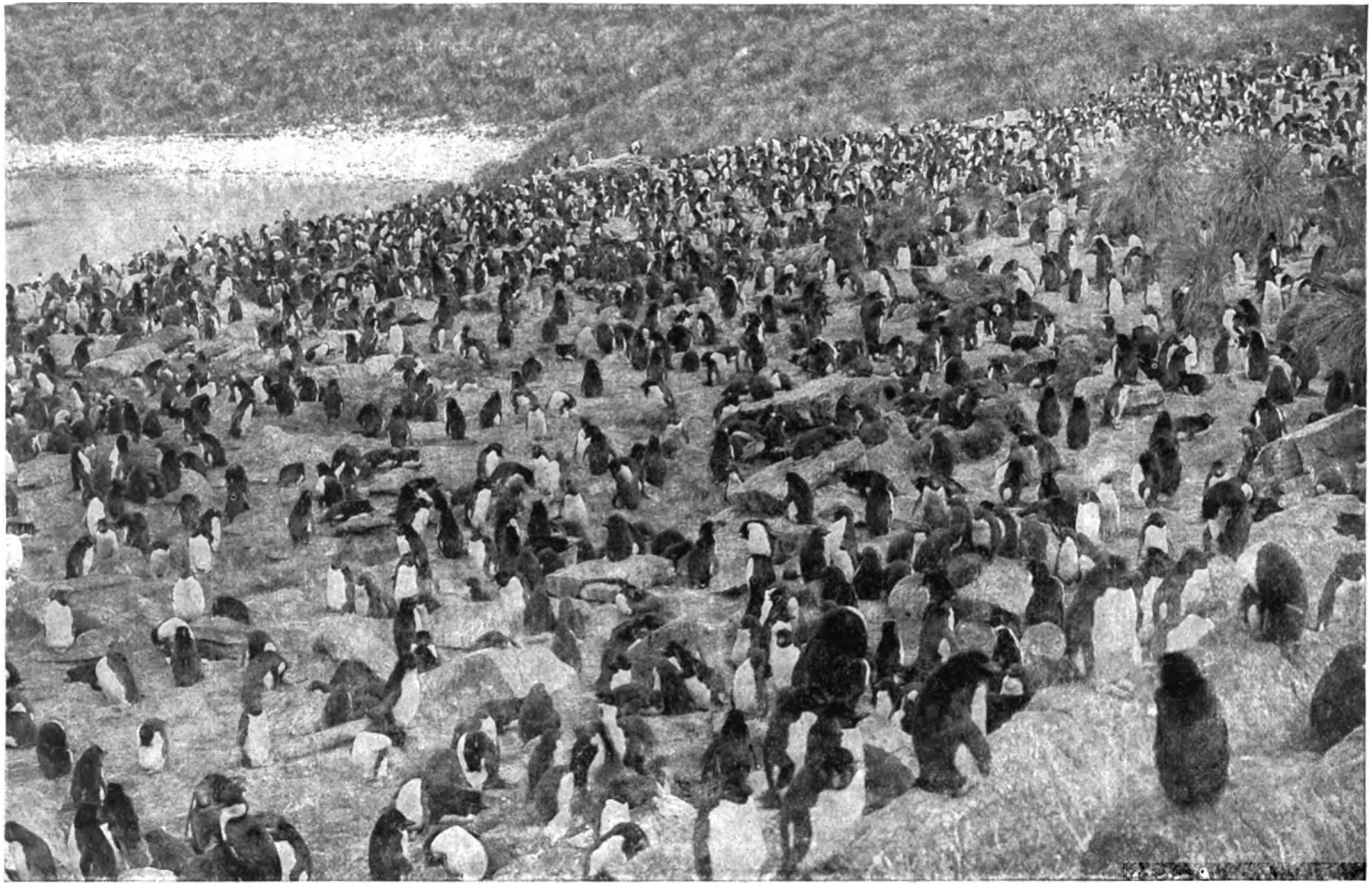

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A SOURCE OF EGG-SUPPLY IN THE FALKLANDS

By far the commonest birds to be found in the Falkland Islands are the Penguins, and of the four species occurring there, the small Rock Hoppers are probably as numerous as the other three combined. The above illustration shows the east end of the colony on Kidney Island about the middle of January, 1916. Many young birds can be recognized in the photograph, notwithstanding the fact that more than twenty-five thousand eggs were taken by eggers early in December from this same colony. When the young birds are perhaps two-thirds grown, they leave their nests and gather in little bunches over the rookery. One sometimes can see a dozen or twenty of the youngsters huddled together. How the parents can select their own young from the mixed-up assembly, when returning from the sea with food, is inexplicable to a human observer. The Penguins' eggs are widely used in the Falkland Islands, many thousands being pickled and preserved for winter use.

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DOLPHIN GULLS NEST-BUILDING IN A FRESH-WATER POND

On Sea Lion Island a colony of the bluish colored Dolphin Gulls was discovered building nests along the edge of a fresh-water pond. A settler's house was about a mile from the pond, and his wife, who had a few chickens, was compelled to keep a close watch on the thieving Gulls whenever food was thrown to the fowls. While we sat at lunch in the cabin, the roof was covered with Gulls waiting for bits of Penguin eggs which were given to the chickens in lieu of other food.

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AN UNUSUALLY LARGE COMPANY OF SHEATHBILLS

The Sheathbills, or Kelp Pigeons, as they are known in the Falklands, are seldom seen in flocks of any size, the groups shown above being the largest observed. The presence of a large King Shag rookery near-by attracted these birds. In the nesting-season the Kelp Pigeons hang around the Penguin and Shag rookeries, finding there bits of desirable food, but at other seasons they feed on the numerous shellfish that are abundant everywhere along the rocky shores at low tide. The few Kelp Pigeons that remain in the Falklands through the summer are not known to nest there, the breeding-ground of the species being the islands farther south.

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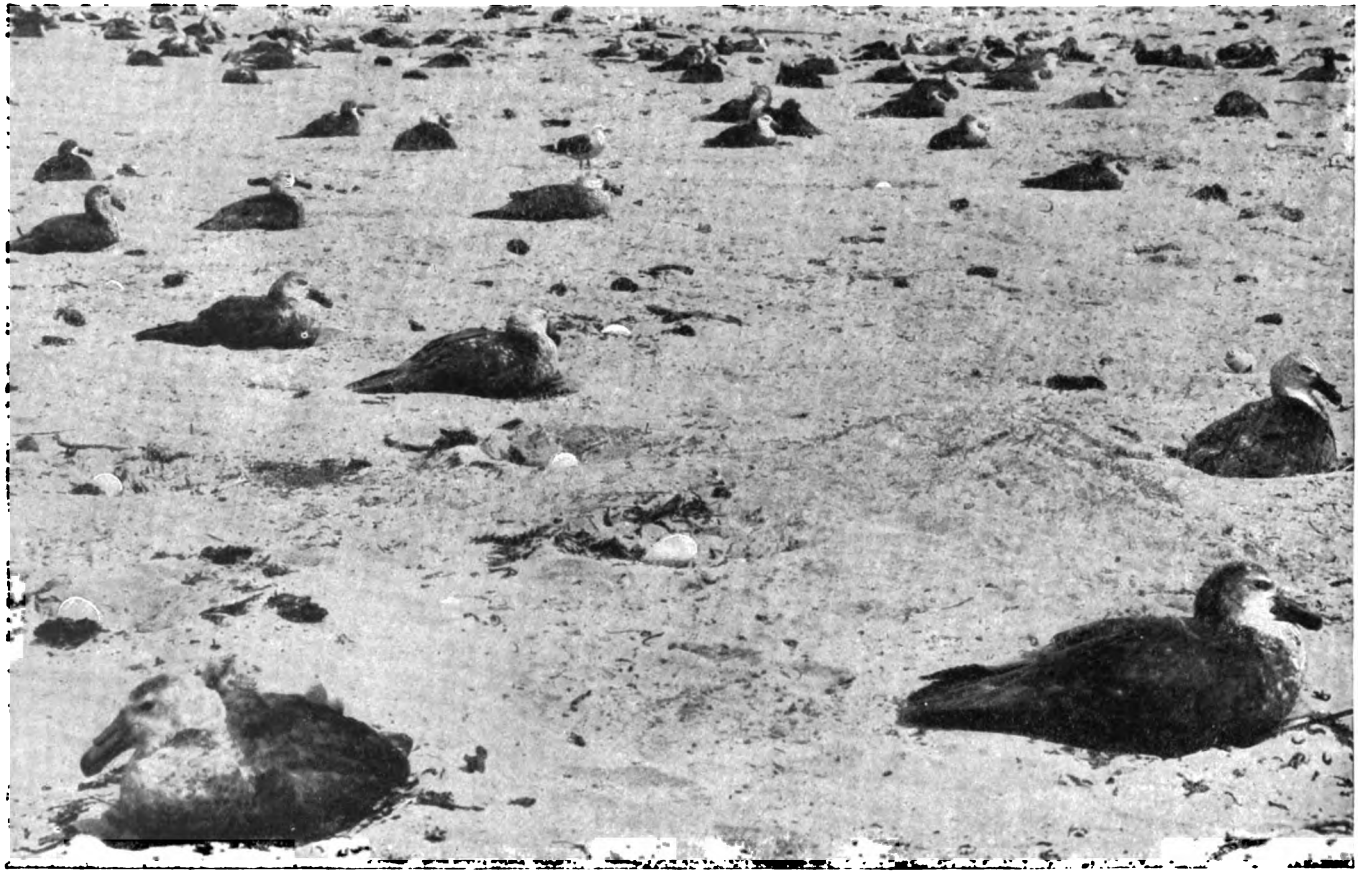

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THE GIANT FULMARS ON THEIR NESTS

About a hundred pairs of birds were nesting on the flat sandy top of Sea Lion Island only a few hundred yards from the beach. Many of the birds from this colony made trips along the coast of East Falkland Island in search of food, a dozen or more being seen at times at least 75 miles from their nests near the harbor at Port Stanley. Birds of this species may be seen in winter in the harbor of Valparaiso, Chile, feeding with the Gulls close along the rocks where the city garbage is dumped.

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JACKASS PENGUINS IN A FRESH-WATER POND

An unusual sight in the Falkland Islands is to see a flock of playing Penguins darting back and forth in a fresh-water pond. The birds shown above were dozing

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JACKASS PENGUINS IN A WIND-WHIPPED RESTING-SPOT

In the windy weather which is frequent about the Falkland Islands, many of the Penguins come ashore and spend hours resting on the beaches near the water. The above photograph was taken on a very windy day, the photographer approaching the birds on his knees, as this species is much wilder, for some reason, than the two other species which are common there also. At this same spot, on days less windy, the Jackass Penguins were seen darting to and fro in the curling breakers only a few yards from shore.

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'Pauperizing' the Birds

By HENRY OLDYS

INTEREST in birds has grown amazingly in recent years. The charm of establishing friendly relations with these bright and attractive little creatures and of becoming familiar with their pretty ways and varied songs is making an appeal to young and old such as it never did before. Some are content with the old method of scattering a few crumbs on doorstep or window-sill and placing rudely constructed nesting-boxes about the home. Those, however, who are stirred by the always laudable ambition to attain the highest success possible study carefully the question of catering to the varied tastes of different species. On the grounds of these more energetic bird-lovers, providing for the birds is a much less simple matter. Elaborate tables are spread for the feathered guests; certain selected shrubs, which furnish food, nesting-sites, and shelter from enemies, are planted in profusion; nest-boxes of special sizes and types are constructed or purchased and erected at suitable heights and in carefully chosen localities; the pan of water is superseded by the concrete pool; and many other devices of proved service are used to attract avian visitors. Especially are these modern methods and contrivances used in the community bird sanctuaries which are beginning to dot the country in increasing numbers.

That the beneficiaries of all this activity appreciate and respond to such provision for their welfare is plainly evident to anyone who visits one of these private or public bird-havens and observes the throng of birds constantly about food-tray and pool; or who is familiar with certain statistics published by the United States Department of Agriculture, which show that while the average density of birds nesting about homesteads in the eastern half of the United States is approximately one pair to the acre, places where the birds find special accommodations have as many as three, five, seven, even twelve, nesting pairs to the acre. And ever before the eyes of those cognizant of the progress of the movement is the remarkable achievement of Herr Graf von Berlepsch, who, on his estate at Witzenhausen, in Thuringia, has induced more than 500 pairs of birds to make their home annually on the 13-acre park surrounding his castle—a bird population of forty pairs to the acre!

From the standpoint of increasing the birds, the measures taken are unquestionably successful. Let it not be supposed that a greater number in one place implies a decrease elsewhere—in other words, that the excess on tracts where conveniences are supplied is drawn from other areas that are only normally attractive to birds. Birds are very local in their attachments. The same pair, in the absence of interference, will nest year after year in the same spot. And the banding experiments that have been conducted for some years by an energetic organization tend to show the same tenacity as regards their winter homes. Thus, White-throated Sparrows banded on a farm at Thomasville,

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Ga., were noted at the same spot in the following winter, having spent the summer, as usual with their kind, at some point on our northern border or in Canada. While it is possible that some are diverted from less to more desirable quarters, this trait of local attachment suggests that by far the greater part responding to the offered hospitality are those which either are making a first selection of a home or have been forced to abandon the old nesting-place.

It must be remembered, also, that under the human surveillance and protection engendered by the interest underlying the bounty, more birds survive the winter and more are raised to maturity. The casualties due to winter's inclemency and to the dangers that beset growing birds are almost incalculable. Much of the increase in numbers among the species directly benefiting by the new interest is undoubtedly due to this saving of bird-life.

So far all is well. The movement brings about a substantial increase in our beneficial birds and a healthy growth of human interest in animated nature. The desirability of each of these results cannot be seriously questioned. But in the midst of our felicitations on the rapid spread of the movement there comes a discordant note. From sources too sincere, too intelligent, too friendly to birds to be ignored as born of ignorance or prejudice, comes a warning—"You are doubtless enjoying yourselves, and your intentions are praiseworthy, but you are *pauperizing the birds* and destroying their usefulness. If you supply them with substitutes for their ordinary insect and weed-seed diet they will give up their foraging habits and will no longer hold the enemies of agriculture and horticulture in check."

On its face this is a plausible indictment. A Downy Woodpecker, for example, that obtains all his meals from the suet-basket will be diverted from the insect-infested tree and his service to man and tree will cease. He will be transformed from a very serviceable helper to an idle pensioner, and his practical economic relation to man will be converted to a purely esthetic one.

But several factors are here ignored that are necessary to a broad and full understanding of the question. In the first place, it is extremely unlikely that any bird will satisfy his appetite only at the ready-spread table. With birds, as with man, the appetite demands diversity of food. Doubtless the Downy Woodpecker invoked as an example will help himself freely to the convenient suet, especially in times of scarcity of his natural food; but he is no more likely to feed on suet alone because of its ready accessibility than is a man to confine his diet to chicken, if chicken be furnished him without cost. If a man were to try such an experiment he would soon find himself loathing the very sight of chicken; and it is probable that birds have a similarly discriminative sense, to force them to seek that diversity of food which they need as much as man. Again, one of the best established ornithological facts is the governance of birds almost absolutely by habit. It is the habit of the Downy Woodpecker to dig in the trees for certain insects to be found there. Pecking into suet may form an

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agreeable diversion and in an emergency may even be a necessity, but it is altogether unlikely that the ancestral method of feeding imposed on the birds by ages of inheritance will lightly disappear, to be replaced by a different form. It should be remembered in this connection that only as the nesting-boxes supplied birds have approximated their natural nesting-places have the birds been induced to accept them freely. Even so small a change as boring a bulging hole in the box, instead of a straight one, and beveling the lower edge of the entrance-hole, increased the occupancy of boxes in the Berlepsch woods from 50 to 90 per cent. If our supposititious Woodpecker, who is here doing duty as representative of his entire class, were to give up his investigations of the tree trunks and abandon himself to the luxury of unlimited suet-pecking, nature would prod him with that sharp stick of instinct which she uses as a stimulant to bird activities in lieu of a conscience, and he would find himself seized with an irresistible desire to fly to some tree and explore its bark for the food hidden beneath.

In the next place, the enormous number of birds must be considered—something of which few persons have an even approximately adequate conception. The immense concourses of Passenger Pigeons, remembered by many now living and so graphically described by Wilson, Audubon, and other early ornithologists, are common knowledge. But that the Robins of America are today far more numerous than the Passenger Pigeons ever were, and that many other species outnumber them also—perhaps three to one—is not generally appreciated. The gregariousness of the Pigeons, causing them to unite in a few great flocks, made the number much more manifest than do the scattered small bands and individuals of other birds. Yet when we reflect that Robins nest over an area extending at its farthest limits from Mexico to the Arctic Ocean and from the Atlantic to the Pacific, and that in much of this vast territory they are fairly crowded, it is easy to conjecture what an immeasurable army they would make if gathered into one flock. How many who read this article have even knowingly seen a Longspur? Yet on the morning after a wet snowstorm that visited Minnesota some years ago, one million Longspurs were found lying dead on the ground, having been brought down by the storm out of a flock that was passing overhead through the night.

In view of the inconceivably great number of birds that populate the country, then, it should not be difficult to comprehend very readily that the few hundred thousands or even millions that receive a varying proportion of their food directly from man constitute an inconsiderable fraction of the whole. If a million Longspurs may be stricken dead in a night without producing an appreciable increase of insects and weeds, surely we need have no concern over the possible danger that our generosity may work serious injury to agriculture.

Moreover, consideration must be given to the increase in the bird population wrought by the greater protection resulting from active interest in the birds,

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not only on sanctuaries but elsewhere, as, for instance, in converting many thousands of boys from bird-destroyers to bird-protectors. What degree of suppression of forces inimical to bird-life is thus occasioned we cannot know with exactness, but it must be very great. It is easily conceivable that the quantity of insects and weed seed consumed by the birds thus preserved is at least as great as any increase of these pests arising through feeding the birds.

Finally, the young birds raised on sanctuaries, public and private, are not fed from the food-shelf while they are in the nest. They require a diet of soft-bodied insects, which the parents must supply. The more young, the more insects. If four broods are raised where formerly but one was the rule, four times as many insects will be required for the purpose. This necessity of securing insects for the young will of itself prevent birds from incurring any grave danger of being pauperized, and the greater quantity of insects needed for the larger number of broods will obviate any diminution in the service to agriculture.

To this point the argument has been of an *a priori* character. But *a posteriori* conclusion may be drawn from three facts, one general, the other two specific. The general fact is that on sanctuaries, not only do the plants (including trees) show no deterioration from insect attack, but they seem to be healthier and freer from such depredations than before the feeding of birds was begun. It is largely for the purpose of benefiting the plant-life on estates that sanctuaries are established. The specific facts are as follows: When, a few years ago, E. H. Forbush, State Ornithologist of Massachusetts, increased the number of birds in his orchard by the usual means, his little pensioners, the following summer, saved his fruit crop (and, incidentally, that of his next neighbor) from the attacks of a host of tent caterpillars and cankerworms that ruined every other fruit crop in the region. Again, when a similar outbreak of caterpillars stripped the trees of a large area in Germany so bare that the summer woods resembled those of winter, the birds that Baron Berlepsch had fed and housed so protected his estate that although it stood in the midst of the devastated area the invading army could not get within a quarter of a mile of it. These examples of the actual effect of sanctuary methods amply support the theoretical conclusions previously reached.

We may, therefore, reassure ourselves and continue to enjoy our new intimacy with the birds with clear consciences. We shall not pauperize the birds by our liberality and friendliness. On the contrary, we may rest with confidence in the pleasant thought that, while instituting a delightful relationship with our welcome guests and filling our homes with the added beauty of their song and plumage we are increasing their general efficiency and so insuring a greater degree of health and beauty to our lawns, trees, shrubs, and flowers.

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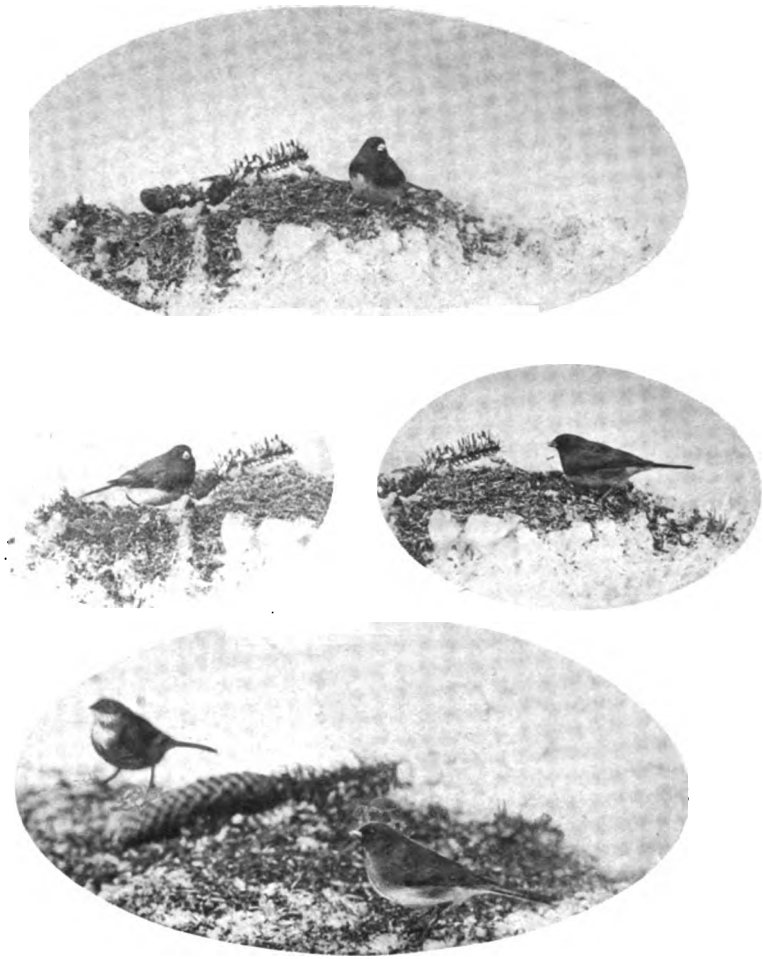

CAMERA PORTRAITS OF THE JUNCO
By C. F. Stone, Branchport, N. Y.

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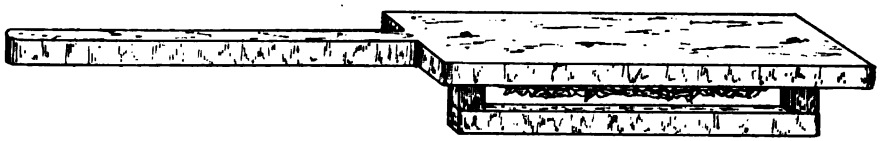
A New Feeding-Slab

By WM. E SAUNDERS, London, Ont.

SO MANY of the readers of BIRD-LORE are interested in feeding the winter birds that this magazine ought to be a medium for the exchange of ideas on that subject.

Few of us live where we are not troubled by the English Sparrows, which therefore must be reckoned with before we can successfully feed our native birds. I have done constant work in trapping Sparrows for two or three years, and have been amazed to find that one can practically exterminate them in his own back yard, even though they may be plentiful within a distance of a hundred yards, or even less. But we are learning all the time that birds are local in their habits, and this is only another proof added to the many that have gone before.

I have used the large box-trap, originally recommended, I think, by the Department of Agriculture, into which the Sparrows enter through spaces left at the top. I have also used a trap of the Dodson type, and while both of



THE SAUNDERS FEEDING-SLAB

these are moderately successful, yet I find that they make the Sparrows very wary, and they do not give results that are at all comparable to those obtained by the use of a plain trap consisting of a shallow open box in which the bottom is replaced by wire netting. This box is held up by a stick 7 or 8 inches long, and a string attached to the stick leads to the living-room window. Millet seed is kept constantly under the box, and the Sparrows feed under it safely; and when a Sparrow gets the habit of coming to my yard at all, he soon finds the food-supply, and I notice that the seed is diminishing daily. The supply, however, is kept up, and some fine morning I find one or more Sparrows under the trap, when there is an opportunity to pull the string.

In the spring of 1916 I kept both a Dodson trap and a box-trap set throughout April and May. The Dodson trap caught one Sparrow and the other caught about twenty, and these were, of course, wary old birds. Another great advantage of the box-trap is that it is used constantly by all the visiting and resident native Sparrows as a food-supply, and they act as unconscious decoys for the House Sparrow. The trap is, of course, perfectly safe for the natives, as I never pull the string except for House Sparrows, and it is very amusing to see the absolute disregard with which the Chippies and others steal my bait, for to me the trap forms the best place for feeding native Sparrows.

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Constant trapping keeps the numbers of Sparrows down to the minimum, but when in winter I put out food on horizontal platforms or perpendicular slabs, using fat and nuts, not only do the Woodpeckers and others use it, but the Sparrows find it a welcome source of food, and if they are undisturbed they will eat two or three times as much as all the native birds put together. I was so bothered in this way last winter that I was driven to invent the upside-down slab shown in the illustration, with the very satisfactory result that while the Chickadees, Woodpeckers, and Nuthatches use it freely, and apparently like it just as well as any other method, the Sparrows never touch it at all. Not only does one get ahead of the Sparrows, but the snow never covers the food, as it does where the supply is on a horizontal platform; and for the northern districts where there is a good deal of snow in winter, this is quite an important point.

The handle which projects from the center at one end of the slab is for the purpose of supporting it. One may have two nails driven in it or two little wooden sockets on the wall or on a tree, the socket or nail nearest to the feeding-slab being below the handle, and the one farthest away being above; with this arrangement one can pull the slab off, take it in for replenishment, and replace it again with equal convenience. This slab was exhibited at the last meeting of the American Ornithologists' Union and was favorably commented on by many of those present.

For food, my plan is to get a bag or two of salted peanuts, grind them in a meat-chopper, mix them with melted suet, and plaster the mass on the wood with a spoon. As soon as cool it adheres perfectly, and one has the satisfaction of knowing that the birds do not walk on their food before eating it, though that satisfaction is probably limited to the human race and not shared by the birds themselves.

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The Migration of North American Birds

SECOND SERIES

II. THE SCARLET AND LOUISIANA TANAGERS

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

See frontispiece

SCARLET TANAGER

The Scarlet Tanager (*Piranga erythromelas*) breeds in the United States and southern Canada, north to Nova Scotia, southern Quebec, Ontario, and southeastern Saskatchewan; south to southern Kansas, Tennessee, northern Georgia, and western South Carolina. It winters in South America from Colombia to Bolivia and Peru, and migrates through the Greater Antilles and Central America. It is of casual occurrence during migration also west of Wyoming and Colorado, and east to the Bahama Islands and the Lesser Antilles.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Miami, Fla.			April 22, 1911
Mosquito Inlet, Fla.			April 17, 1902
Dry Tortugas, Fla.			March, 29 1890
Savannah, Ga.	4	April 14	April 1, 1912
Atlanta, Ga.	8	April 19	April 11, 1904
Long Island, Ala.	4	April 16	April 4, 1910
Bay St. Louis, Miss.	2	April 10	April 10, 1902
New Orleans, La.	5	April 12	April 6, 1893
Point Bolivar, Tex.			April 22, 1907
San Antonio, Tex.			April 12, 1890
Aiken, S. C.	2	April 24	April 21, 1914
Raleigh, N. C.	21	April 29	April 19, 1911
Weaverville, N. C.	5	April 20	April 17, 1894
Variety Mills, Va.	28	April 30	April 21, 1891
Washington, D. C.	31	May 1	April 17, 1899
Waverly, W. Va.	4	April 28	April 25, 1904
White Sulphur Springs, W. Va.	6	May 2	April 28, 1895
Chattanooga, Tenn.	7	April 26	April 18, 1910
Eubank, Ky.	9	April 18	April 14, 1890
Helena, Ark.	4	April 26	April 10, 1892
St. Louis, Mo.	9	April 27	April 21, 1887
Onaga, Kans.	8	May 7	April 24, 1896
Hartford, Conn.	23	May 9	May 4, 1913
Providence, R. I.	17	May 11	May 3, 1905
Boston, Mass.	25	May 11	May 6, 1899
Springfield, Mass.	7	May 12	May 8, 1895
Phillips, Maine	12	May 17	May 9, 1905
Durham, N. H.	3	May 15	May 9, 1900
Rutland, Vt.	11	May 14	May 4, 1913
St. Johnsbury, Vt.	17	May 17	May 9, 1905
Morristown, N. J.	17	May 9	April 12, 1887
Englewood, N. J.	15	May 11	May 5, 1906
New York City, N. Y.	31	May 7	April 19, 1882
Alfred, N. Y.	21	May 14	May 5, 1899
Ballston Spa, N. Y.	17	May 13	May 8, 1913

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Buffalo, N. Y.	8	May 9	April 4, 1889
Philadelphia, Pa.	24	May 7	April 30, 1791
Renovo, Pa.	23	May 5	April 29, 1915
Beaver, Pa.	14	May 1	April 22, 1889
Oberlin, Ohio	24	May 1	April 24, 1913
Richmond, Ind.	9	May 7	April 15, 1911
Bicknell, Ind.	7	May 1	April 24, 1894
Waterloo, Ind.	18	May 1	April 19, 1889
Chicago, Ill.	23	May 4	April 28, 1901
Keokuk, Iowa	15	May 2	April 26, 1896
Grinnell, Iowa	7	May 6	April 27, 1888
Sioux City, Iowa	15	May 13	May 6, 1906
Detroit, Mich.	6	May 5	April 29, 1906
Madison, Wis.	23	May 7	April 29, 1899
Lanesboro, Minn.	10	May 11	May 7, 1887
Minneapolis, Minn.	14	May 12	May 6, 1913
Vermilion, S. D.	5	May 14	May 9, 1913
Grand Forks, N. D.			May 21, 1903
Scotch Lake, N. B.	7	May 25	May 18, 1903
Quebec, Quebec	5	May 21	May 14, 1903
Montreal, Quebec	4	May 20	May 17, 1893
Ottawa, Ont.	25	May 20	May 17, 1912
London, Ont.	10	May 5	April 30, 1901
Margaret, Man.			May 24, 1909
Qu'Appelle, Sask.	5	June 6	May 26, 1909

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Earliest date of last one observed
Montreal, Quebec	2	September 4	September 6, 1910
Ottawa, Ont.	11	September 14	October 3, 1914
London, Ont.	3	September 9	September 25, 1902
Phillips, Maine	3	August 10	August, 15 1908
Durham, N. H.			October 5, 1899
Jefferson, N. H.			October 12, 1904
St. Johnsbury, Vt.			October 2, 1914
Boston, Mass.	7	September 19	October 3, 1909
Providence, R. I.	6	September 6	October 6, 1904
Hartford, Conn.	12	September 28	October 17, 1894
Ballston Spa, N. Y.	5	August 29	September 29, 1914
New York City, N. Y.	12	September 25	October 5, 1907
Madison, Wis.	3	September 19	September 25, 1913
Lanesboro, Minn.	5	September 2	September 11, 1887
Minneapolis, Minn.	5	September 10	October 6, 1906
Englewood, N. J.	7	September 27	October 22, 1904
Morristown, N. J.	14	September 27	October 14, 1906
Philadelphia, Pa.	8	October 7	November 3, 1885
Renovo, Pa.	20	September 27	October 13, 1901
Beaver, Pa.	7	September 21	September 26, 1891
Oberlin, Ohio	8	September 19	October 2, 1901
Waterloo, Ind.	9	September 22	October 6, 1891
Bicknell, Ind.	5	September 15	October 14, 1906
Detroit, Mich.	2	October 3	October 5, 1905
Chicago, Ill.	6	September 27	October 12, 1906
Sioux City, Iowa			September 25, 1910

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FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Grinnell, Iowa	4	September 10	September 22, 1888
Keokuk, Iowa	4	September 19	September 23, 1893
St. Louis, Mo.			October 14, 1906
Nebraska City, Neb.			September 18, 1900
Onaga, Kans.	5	August 2	August 18, 1901
Caddo, Okla.			November 2, 1883
Washington, D. C.	15	September 28	October 21, 1891
Eubank, Ky.	4	September 16	September 22, 1886
Weaverville, N. C.	4	October 8	October 20, 1902
Raleigh, N. C.	6	October 2	October 17, 1887
Athens, Tenn.	3	September 26	October 10, 1902
Atlanta, Ga.	5	September 28	October 9, 1899
Savannah, Ga.	2	September 2	September 15, 1908
Tallahassee, Fla.			October 12, 1904
Bay St. Louis, Miss.	3	October 6	October 16, 1901
New Orleans, La.			October 7, 1896
Port Arthur, Tex.			September 11, 1913

LOUISIANA (OR WESTERN) TANAGER

The breeding-range of the Louisiana Tanager (*Piranga ludoviciana*) extends, in North America, north to southwestern Mackenzie, northeastern British Columbia and southeastern Alaska; west to western British Columbia, Washington, and California; south to southern California, southern Arizona, and central western Texas; and east to New Mexico, Colorado, and southwestern South Dakota. It winters from central Mexico to Guatemala; and occurs casually in migration east to Maine, Massachusetts, Connecticut, New York, and Louisiana.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Alpine, Tex.			May 6, 1901
Albuquerque, N. M.			April 22, 1914
Tombstone, Ariz.	4	April 28	April 8, 1911
Laguna, Ariz.			April 25, 1910
Potholes, Imperial Co., Calif.			April 29, 1910
Los Angeles, Calif.	4	April 20	April 14, 1907
Modesto, Calif.	4	April 21	April 14, 1911
Onaga, Kans.	3	May 12	May 9, 1912
Colorado Springs, Colo.	10	May 17	May 12, 1882
Beulah, Colo.	13	May 14	May 7, 1911
Denver, Colo.	4	May 18	May 11, 1913
Boulder, Colo.	6	May 13	May 5, 1904
Yuma, Colo.	4	May 14	May 10, 1904
Custer City, S. D.	2	May 27	May 24, 1897
Cheyenne, Wyo.	3	May 23	May 21, 1888
Columbia Falls, Mont.	5	May 18	May 13, 1897
Rathdrum, Idaho	7	May 26	May 12, 1903
Meridian, Idaho	3	May 16	May 13, 1915
Portland, Ore.	5	May 9	May 4, 1897
Tacoma, Wash.	5	May 9	May 3, 1908
Banff, Alta.	6	May 19	April 30, 1909
Athabaska Landing, Alta.			May 14, 1903
Fort Chipewyan, Alta.			May 26, 1901
Okanagan Landing, B. C.	10	May 10	May 14, 1911

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FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Earliest date of last one observed
Henry House, Alta.			September 10, 1895
Okanagan Landing, B. C.	5	September 4	September 12, 1913
Rapid City, S. D.			October 2, 1909
Columbia Falls, Mont.			September 10, 1894
Missoula, Mont.			September 11, 1915
Cheyenne, Wyo.	2	August 25	September 5, 1884
Ft. Laramie, Wyo.			September 17, 1857
Yuma, Colo.			October 5, 1908
Boulder, Colo.			October 10, 1909
Beulah, Colo.	10	August 30	September 10, 1915
Denver, Colo.	2	September 30	October 3, 1909
Carson City, Nev.			September 18, 1876
Modesto, Calif.			August 24, 1910
Los Angeles, Calif.			September 30, 1895
Onaga, Kans.			August 14, 1913

Notes on the Plumage of North American Birds

FORTY-SIXTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Scarlet Tanager (*Piranga erythromelas*, Figs. 1–4).—The female Scarlet Tanager after acquiring its first winter plumage is alike at all seasons and all ages. Beyond saying, therefore, that our figure of it (Fig. 4) is too pale and yellow, we may pass to the exceptionally interesting plumage changes of the male.

The nestling of both sexes is dusky green, paler below, streaked indistinctly with blackish. At the postjuvenal molt the tail and wing-quills are retained, and a new plumage is acquired which resembles that of the female but has the lesser wing-coverts black as in the male. The following spring this costume (except the flight-feathers) is exchanged for that of the adult male (Fig. 1). This is worn until after the breeding-season when it is molted for the adult winter dress which resembles the female plumage but has the wings and tail black. The molting bird presents a curious patchwork appearance which has excited the curiosity of many observers not familiar with the changes of plumage through which this species passes. At the following spring the scarlet body dress is regained.

Occasional orange-bodied birds of this species are doubtless to be classed as 'albinistic,' or individuals lacking the full share of pigment possessed by the normally colored kinds.

Louisiana (or **Western**) **Tanager** (*Piranga ludoviciana*. Figs. 5, 6). In juvenal or nestling plumage both sexes of this Tanager are dusky yellowish

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or brownish green, yellower below and more or less obscurely streaked; the wings and tail are fuscous, and the former have two well-pronounced yellowish bars, a diagnostic mark of this species in any plumage.

At the postjuvenal, or first fall molt, all but the tail and larger wing-feathers are shed and a new plumage acquired which resembles that of the adult female (Fig. 6), but has the rump and underparts somewhat yellower.

This plumage bears a strong resemblance to that of a female Scarlet Tanager, but the dusky back (instead of uniform olive-green) and pronounced wing-bars of the western bird serve to identify it. Still a Western Tanager seen in the eastern United States could easily be mistaken for the Scarlet Tanager. (I was surprised when preparing these notes, in the National Museum at Washington, to find a female Western Tanager labeled, "Highland Falls, N. Y. ♂ juv., Dec. 21, 1881, Edgar A. Mearns." The identification was a tribute to the acuteness of the ornithologist who as a boy had taken this western species, at his home near West Point, a capture which I subsequently recalled having seen recorded.)

At the spring or postnuptial molt practically all the plumage is molted except the tail, primaries, and secondaries, and the bird acquires a costume much like that of the adult male in our plate. The back, however, is duller and shows some of the feathers of the winter dress, while the new feathers are tipped with olive, the head has less red, and the old wing and tail-feathers are brownish.

After the breeding-season (postnuptial molt) this plumage is completely molted and the bird goes into adult winter plumage. This resembles that of the adult in summer (Fig. 5), but the head is yellow washed with dusky, without, or with but a trace of red, the back is edged with greenish, and, the tertials are tipped with yellowish.

At the second spring molt only the wings and tail are retained, and the bird passes into adult breeding plumage, which is not gained, therefore, until its second year.

The plumage of the female presents but little change with age, sex or season, but some adults in summer have more or less red on the anterior parts of the head.

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THE SEASON

V. October 15 to December 15

BOSTON REGION.—Robins, Bluebirds, White-throated Sparrows, and Myrtle Warblers left this region on their usual date, November 1.

More than a month of beautiful autumn weather followed before winter set in with snow and steady cold, but during this period the country was as barren of bird-life as it was in the winter of 1907–08, when no birds except the commonest winter residents, and these in very small numbers, remained in this vicinity. One exception is to be noted: during November, and to the present time (December 15), Cedar Waxwings have occurred in flocks of a dozen birds or more. A few Slate-colored Juncos and Tree Sparrows are wintering here.

Notwithstanding the absence of birds in the *country* about Boston, Dr. C. W. Townsend reports from Ipswich, Mass., a normal population of water-birds, Snow Buntings, Horned Larks, Ipswich Sparrows, and Myrtle Warblers. However, C. A. Robbins writes that the Myrtle Warbler, ordinarily a common winter visitant, is absent from Wareham this season.

None of the seven species of northern birds which visited us last winter is present this season. Northern Shrikes have been seen occasionally in the country. Now that winter has set in, they have come into the town centers where House Sparrows are plentiful.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK CITY REGION.—After an early October less pleasant than usual hereabouts, the latter part of the month and November gave us, for the most part, splendid autumn weather, though rather cold. December has been marked by a noteworthy amount of cold and frequency of snowfall for so early in the winter.

Individuals, at least, of certain Warblers stayed remarkably late, as a Black-throated Blue and a Cape May at Long Beach, L. I., October 28 (seen by Walter Granger and the writer), a Redstart (also a Black-billed Cuckoo) at Mastic, L. I., November 4 (J. T. Nichols), and a Black and White Warbler at Long Beach on November 6 (J. M. Johnson). Fox Sparrows seemed rather unusually common, singing freely, and Mr. Nichols tells me that they and the Robins stayed unusually late (into the first week of December) at places on the western end of Long Island where they do not winter.

Specimens received in November (the earliest on the 5th, from northwestern New Jersey) from outlying districts indicate an invasion of Goshawks similar to that of last winter, and at least six or eight Northern Shrikes, already reported from in and around the city, point to a rather large southward movement of that species, which was almost entirely absent last winter when so many other northern birds visited us. Several additional Red-breasted Nuthatches were seen, but I have heard of no record of any of the boreal Finches, not even the Pine Siskin.—CHARLES H. ROGERS, *American Museum of Natural History, New York City.*

PHILADELPHIA REGION. — Characteristic autumnal weather conditions prevailed throughout October and November. The first snow occurred November 28.

The Pipit was reported as very abundant at numerous points over an extended territory, being very common from the first week in October to the middle of November. Fox Sparrows and Brown Creepers were perhaps more plentiful than usual. Reports on the autumn flight of Woodcock are somewhat contradictory; that the birds are scarce, taking this region as a whole, there can be no doubt, and a close season for a term of years would not be amiss. A Woodcock was found dead early in November at South Vineland, N. J.,

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which had evidently flown against a telephone wire. Boreal birds, such as Siskins, Redpolls, Crossbills, and Evening Grosbeaks, which were so plentiful late last autumn, are as yet almost totally absent. One of the surprises of the season is the appearance of the Snow Bunting in southern New Jersey (Corson's Inlet, November 11, Wharton Huber; Salem, early in November, Dr. Wharton). These birds usually appear hereabouts after blizzard-like weather conditions.

Goshawks appeared late in November in considerable numbers; several have already reached the hands of local taxidermists. A flight of about fifty Hawks, probably Broad-wings, was observed at Germantown, Pa., November 1, by Arthur Emlen.

Other interesting records are: Rough-legged Hawk, October 20, Lima, Pa., specimen examined, Delos Culver; Pine Siskin, November 1, Gwynned Valley, Pa., Wharton Huber; White-crowned Sparrow, October 25, Chester, Pa., John Carter; Great Horned Owl, Juliustown, N. J., November 17, Emory Bower; Blue-gray Gnatcatcher, Camden, N. J., October 7, J. K. Potter.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—Notwithstanding the unusually cold weather of October and November, there was little out of the ordinary to attract the interest of the ornithological observer about Washington. For the non-appearance of rare winter birds, the relatively, if indeed not actually, warmer weather of regions farther north probably accounts. The low temperature brought visions of many rare northern visitors, but up to the present these have wholly failed to materialize.

The migration during these two months was apparently about normal, although a number of birds stayed rather long, and some winter residents did not appear on time. The Chimney Swift was seen on October 20, which is ten days beyond its average autumn departure, and the Pied-billed Grebe was observed on October 26, a late autumn date. One species, the Least Sandpiper, however, broke all its previous records for autumn lingering, as C. H. M. Barrett reported one on November 22, whereas the previous latest occurrence was November 1, 1917, this latter in itself far beyond any other date. The Herring Gull, on the other hand, appeared on November 21, which is in advance of its previous earliest record, November 25, 1894.

Although in no sense remarkable, a Long-eared Owl reported by I. N. Gabrielson, from East Falls Church, Va., on November 14, and a Connecticut Warbler by A. Wetmore, at Washington, D. C., on October 14, are probably of sufficient interest to merit notice here.

Some species have been more than ordinarily numerous this fall, among which might be mentioned the Meadowlark and the Killdeer. Fully 100 of the latter were noted by C. H. M. Barrett along the Anacostia River on November 21–24, in which locality but a few are commonly seen at this season.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

OBERLIN REGION.—A few Robins and Blackbirds lingered in October until the cold wave and snowstorm of the 30th and 31st, when they disappeared. This unseasonable storm established winter conditions as far as the birds were concerned. There followed nearly three weeks of warm weather and fair skies, but no birds returned to enjoy the belated 'Indian Summer' weather. The usual Flickers and other Woodpeckers were present, and in the beech woods, where the crop of beechnuts is abundant, there were many Red-headed Woodpeckers who seemed intent on spending the winter there. This Woodpecker is not a regular winter bird with us, but usually remains when there is an abundant crop of beechnuts.

As I write, Oberlin is in the midst of a second cold wave with attendant deep snow for the region. While there has been nothing out of the ordinary in the winter bird-life thus far, I fully expect that

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following this severe storm there will be an invasion of the region by northern species.

In the midst of this storm I found a Yellow-bellied Sapsucker clinging to the vines which cover one of the college buildings. He was complaining bitterly. Last winter an individual of this species lived for some time during the colder weather in the same place. The Sapsucker is not a winter bird of the region.—LYNDS JONES, *Oberlin, Ohio.*

MINNESOTA.—Throughout October the weather all over Minnesota was so cold and stormy as to be almost unique in the records of the state. During the very first days, freezing temperatures prevailed from the Iowa line northward, with ice on the ponds and shallow lakes and flurries of snow. Before the month was over, nearly a foot of snow had fallen and subzero temperatures had been experienced in the northern part of the state. The effect of these abnormal conditions upon bird-life was, of course, greatly to disarrange the usual migratory movements. This was especially noticeable in the case of water-birds. Many of the Ducks (notably the Canvasbacks, Redheads, and Teal), Rails, Coots, Gallinules, shore-birds, and Herons left much before their time because of the ice that locked up their food-supply. Among land-birds there was also a speedy disappearance of species that usually linger through October. The bulk of the Robins, for instance, retreated a month ahead of time and left an unusually heavy crop of mountain-ash berries, wild grapes, and other fruits almost untouched, especially in the northern half of the state. They usually clean up the mountain-ash berries pretty thoroughly before going.

Following the tempestuous and unseasonable October came an equally unusual November, in the beautifully mild and Indian-Summer-like character of many of its days. Snow, ice, and chill disappeared, but the birds that had earlier fled in alarm did not return in any considerable number. At Heron Lake, a famous water-fowl resort in southwestern Minnesota, and at various places northward on both sides of the Minnesota-Dakota boundary, there was an unprecedented assemblage of Mallards, with a sprinkling of Pintails, Scaups, Ringnecks, and others. Many thousands were at Heron Lake during the third week of November.

The mild November gave way suddenly, with the advent of December, to bitter winter weather. Temperatures far below zero have prevailed all over the state, and even as far south as Minneapolis several days together have occurred without the mercury's rising to zero, even at noon, with 15° and 20° below mornings and evenings. Only light snows have fallen thus far.

The winter bird student in Minnesota must find his chief pleasure and excitement afield in the boreal visitants. So far this winter there has been little else but disappointment in this direction, despite the abundant food-supply that awaits them and the frigid northern weather of late. The usual influx of Redpolls, Snow Buntings, and Lapland Longspurs, and the roving flocks of Evening and Pine Grosbeaks and Bohemian Waxwings have not appeared or have eluded observation. A Northern Shrike on the campus of the University at Minneapolis in late November is the only winter visitant that the writer has seen thus far.

P. O. Fryklund reports from Badger, away up near Lake of the Woods, November 23: "In regard to the arrival of winter birds, . . . the only bird of the kind that has come to my notice is the Snow Bunting which I first saw on the 16th inst. Last Wednesday . . . there were three of us in company, walking all day, and the only living things that came to our notice were one Great Horned Owl, one Ruffed Grouse and one Downy Woodpecker—not a rabbit nor a squirrel were seen. The wolves will undoubtedly have a hard chase for their living, and we have quite a lot of them throughout the country." Under date of

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December 13, Mr. Fryklund reports nothing new except Snowy Owls.

Prof. Eugene Van Cleef, of Duluth, reports December 12: "I have failed to see any of the winter visitants and wondered whether this was due to any lack of observational powers. I have inquired of some people whom I felt ought to know something about the situation here and they report likewise the absence of any visitants. S. George Stevens . . . states that he has heard a flock of Redpolls but has not seen them. . . I would incidentally call your attention to the fact that a year ago, i. e., October, 1916, we saw 'myriads' (taking this word from our notes) of Bluebirds in the city *en route* south. Whereas this year we saw none within the city limits and only a few outside. It would seem to be an off year with the birds."

Dr. J. C. Hvoslef reports December 12, from Lanesboro, Fillmore County, in the extreme southeastern corner of the state: "Your letter was received yesterday and from it I learned that you have had about the same experience in regard to the bird migration this fall as I had myself in my field of observation in and about Lanesboro."—Thos. S. Roberts, *University of Minnesota, Minneapolis.*

Denver Region.—The period covered by this report has not been entirely colorless ornithologically. It is normally quiet, with little bird-movement except toward its end. This year it has been quieter than usual because of the mild weather, October and November, and December up to date, giving the Denver area nearly 75 per cent of the possible sunshine, resulting in bright, warm days. Yet most of the breeders did not linger, but seemed, on the contrary, to leave perhaps earlier than usual. And, notwithstanding the mild autumn, some of our winter birds appeared on time, or even ahead of the schedule. The various species and races of Junco came rather earlier, driven down, perhaps, by the more severe conditions in the neighboring higher altitudes. The Slate-colored Junco is very uncommon about Denver, and yet, on November 11, the writer saw a large, scattered flock of Juncos, which contained many of the Slate-colored species about two miles from the foot-hills, near the mouth of Platte Cañon.

The Clay-colored Sparrow and Audubon's Warbler were common until the third week in October, which is their ordinary time of departure, and the Northern Shrike arrived on time late in the same month. It was a surprise to see the Western Tree Sparrow as early as October 24, even well out on the plains (along the small creeks and in the weed-patches adjacent thereto). This, in the writer's experience, is at least two weeks ahead of their usual arrival. The American Rough-leg Hawk also was on hand two weeks earlier than under ordinary conditions, appearing the second week in November. The Robin is about the only bird which met the writer's expectations by remaining longer than usual because of the fine weather; this bird remains all winter in the vicinity of Denver, but is seldom seen in the city itself after the middle of November, yet this year one was noted in town on December 4. Three things stand out in the local records for this period: the comparatively large number of adult male Marsh Hawks seen, the very large number of Ferruginous Rough-leg Hawks, and the considerable number of Longspurs also, noted near the city and its environs. It is over twenty years since the writer has seen more than a stray Longspur of any sort close to Denver; however, this autumn a number of flocks were noticed immediately south of Denver, flocks which contained Chestnut-collared and McCown's Longspurs, the latter being vastly in the majority.—W. H. Bergtold, M.D., *Denver, Colo.*

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Bird-Lore's Eighteenth Christmas Census

THE ornithological feature of this winter, as shown by the Census reports, is the invasion of the northeastern states by Northern Shrikes. Last winter, memorable for the extensive southward movement of so many northern species, but three Shrikes appeared in censuses from Ontario, New England, New York, and New Jersey. This winter the number is twenty-five, with several others recorded as seen recently but not on the census-day—in other words, the species figures in about 35 per cent of the reports from the territory mentioned. The 'farthest south' is central New Jersey and southeastern Pennsylvania, but there is only one record from the latter state and none west of the Alleghanies except two birds seen near Denver. Furthermore, there are several mentions of Migrant Shrikes from points in and around Connecticut; this, in view of the rarity in winter of the Migrant and the unusual abundance *this* year of the Northern, is a somewhat suspicious coincidence. On the other hand, one or more of the former may have been recorded as the latter by observers thinking that any *Lanius* seen in winter is necessarily *borealis*. There has also been a marked southward movement of Goshawks and of Great Horned Owls (see especially the Warwick, R. I., report); and a flight of Iceland Gulls along the northeast coast—one, at least, reaching eastern Long Island. But of the northern Finches so prevalent last year, the only occurrences are a few widely scattered of Redpoll and Pine Siskin, of Red Crossbill in Maine and Nebraska, Evening Grosbeak at Bennington, Vt., and Pine Grosbeak and White-winged Crossbill at Newfane, Vt. There is no record of the Brown-cap Chickadee in the Census, and we know of none elsewhere.

Many observers in the East and Middle West speak of an uncommonly cold autumn and early winter and a general scarcity of birds, especially seed-eaters. On the other hand, some birds are to a certain extent wintering north of their custom, as indicated by many Belted Kingfisher records, Canada Geese at two points in Massachusetts, three on Long Island and one in Iowa, Grackles (probably all or most of them Bronzed) at eight points from Massachusetts to southeastern Pennsylvania, and an occasional individual of other species.

First place goes to the energetic Los Angeleños with 106 species observed within a 15-mile diameter. Santa Barbara is second with 92, which is the largest 'one-party' list.

Our sincere thanks are always due to our many friends who help make the Census a success, but, as usual, there is a regrettably large number who pay so little heed to our italicized requests as to leave several days between the taking and the posting of their censuses, send them to Harrisburg, or in some other such way to cause the rejection of their reports.—CHARLES H. ROGERS.

Arnprior, Ont.—Dec. 25; 9.30 A.M. to 5 P.M. Clear; 14 in. of snow; wind northwest, strong; temp. min. 14°, max. 16°. Twelve miles on snowshoes. Observers separate.

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Canada Ruffed Grouse, 2; (Barred?) Owl, 1 (seen flying after sunset); Hairy Woodpecker, 2; Blue Jay, 2; Finch sp., 15; Brown Creeper, 3; White-breasted Nuthatch, 10; Black-capped Chickadee, 21; Golden-crowned Kinglet (an unusual winter resident), 4. Total, 9 species, 60 individuals. Dec. 23, Red-breasted Nuthatch and Northern Shrike. Evening Grosbeaks and other northern species that were so common last year, have been, so far this winter, entirely absent.—CHARLES MACNAMARA and LIGUORI GORMLEY.

London, Ont.—Dec. 22; combined list of four parties hunting separately, 8 to 11.30 A.M. (one party, three observers), 2.30 to 5.30 P.M. (three parties, five observers); covering on foot a stretch of country from the city west about 5 miles, following roughly the course of the River Thames. Temp. 20° at 8 A.M., 26° at 2 P.M., 22° at 6 P.M.; ground almost bare; wind very light southwest. Horned Grebe, 1; Herring Gull, 3; American Merganser, 20; American Goldeneye, 10; Ruffed Grouse, 2; Screech Owl, 1; Great Horned Owl (?), 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Blue Jay, 10; Crow, 1,500; Purple Finch, 50; Tree Sparrow, 18; Junco, 15; Song Sparrow, 1; Cardinal, 1; Northern Shrike, 1; Brown Creeper, 4; White-breasted Nuthatch, 4; Black-capped Chickadee, 42; Golden-crowned Kinglet, 12. Total, 21 species, 1,703 individuals. Others seen recently: Robin, Snow Bunting, Bronzed Grackle, and Waxwing.—MCILWRAITH ORNITHOLOGICAL CLUB: C. G. WATSON, J. F. CALVERT, J. C. MIDDLETON, E. DALY, G. GILLESPIE, E. M. S. DALE and J. R. MCLEOD.

Bucksport, Maine.—Dec. 26; 8 to 11.30 A.M. and 12.30 to 3.15 P.M. Clear; 14 in. of snow; wind north, light; temp. 9° at start, 10° at end. Eight miles on foot. Herring Gull, 12; Canada Ruffed Grouse, 1; Goshawk, 1; Redpoll, 2; Chickadee, 8; Golden-crowned Kinglet, 10; Robin, 2. Total, 7 species, 36 individuals.—GEORGE L. BLODGET.

North Bridgton, Cumberland Co., Maine.—Dec. 26; 8 A.M. to 1.15 P.M. Clear; 2 ft. of snow; wind north, light; temp. 8° at start, 18° at return. Eight miles on foot. Observers in pairs. Downy Woodpecker, 2; Blue Jay, 7; Purple Finch, 1; Red Crossbill, 1; Redpoll, 5; Goldfinch, 2; Pine Siskin, 27; Tree Sparrow, 3; Slate-colored Junco, 2; Brown Creeper, 3; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 13; Black-capped Chickadee, 41; Golden-crowned Kinglet, 13. Total, 14 species, 121 individuals. A Goshawk is wintering in this vicinity but was not seen on this trip.—MRS. ROLAND WOODBURY, MISS ELEANOR CHUTE, MRS. JAMES STEADMAN and MISS MARJORIE STEADMAN.

Nashua, N. H. (to Merrimack, N. H., and back).—Dec. 22; 9 A.M. to 5 P.M. Partly cloudy; 12 in. of snow; wind northwest, strong; temp. 32° at start, 36° at return. Fourteen miles on foot, much of distance on snowshoes. Merganser, 6; Ruffed Grouse, 1; Mongolian Pheasant, 10; Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 5; Crow, 7; Starling, 297; Snow Bunting (picked up dead), 1; Tree Sparrow, 5; Slate-colored Junco, 1; Brown Creeper, 1; White-breasted Nuthatch, 1; Black-capped Chickadee, 16. Total, 14 species, 353 individuals. Saw-whet Owl reported on Dec. 25, Robin Dec. 26, and Golden-crowned Kinglet Dec. 28. I have seen no Redpolls this winter; all seed-eating birds very scarce. I attribute this to the lack of food. The gray birches did not seed this year. On these seeds the Sparrow tribe subsists in this latitude (in winter). Ordinarily the snow is strewn with the seeds—this winter not a seed.—MANLEY B. TOWNSEND and (part of the time) JOHN H. BOWERS.

Wilton, N. H.—Dec. 25; 8 to 11.30 A.M. Cloudy; 6 to 24 in. of snow; no wind; temp. 40° to 42°. Hairy Woodpecker, 1; Downy Woodpecker, 1; Blue Jay, 5; Chickadee, 14; Golden-crowned Kinglet, 2. Total, 5 species, 23 individuals.—GEORGE G. BLANCHARD.

Bennington, Vt.—Dec. 25; 9 to 11.30 A.M. Four-mile auto drive and back with a 2-mile walk through field and wood. Cloudy; bare ground to 10 in. of snow; wind west, strong; temp. 32°. Observers together. Ruffed Grouse, 2; Pheasant, 3; Downy Woodpecker, 1; Blue Jay, 1; Starling, 4; Tree Sparrow, 2; Northern Shrike, 1; White-breasted

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Nuthatch, 1; Chickadee, 8. Total, 9 species, 23 individuals. On Nov. 2 and 3, a mixed flock of between 75 and 100 Bohemian Waxwings and Evening Grosbeaks was observed in North Bennington.—DR. and MRS. LUCRETIUS H. ROSS.

Newfane, Windham Co., Vt.—Dec. 25; 10 A.M. to 1.30 P.M. Clear; 3 feet of snow; wind northwest, light; maximum temp. about —10°. About 3 miles on foot. Ruffed Grouse (*B.u.umbellus*), 6; Barred Owl, 1; Downy Woodpecker, 4; Blue Jay, 20; Pine Grosbeak, 30; White-winged Crossbill, 15; White-breasted Nuthatch, 1; Black-cap Chickadee, 2. Total, 8 species, about 80 individuals.—GEO. K. CHERRIE.

Boston to Gloucester, Mass.—Dec. 22; 1 to 4 P.M. Clear; wind northwest, strong; temp. 34°, falling to 20°. Thirty miles by steamboat. Black Guillemot, 1; Kittiwake, 50; Iceland Gull, 3 (cream-white with small black bill); Black-backed Gull, 15; Herring Gull, 300; Bonaparte's Gull, 4; Red-breasted Merganser, 10; American Goldeneye, 6; Old-squaw, 14; Canada Goose, 1. Total, 10 species, 504 individuals.—LIDIAN E. BRIDGE and ANNIE M. COBB.

Gloucester, Mass.—Dec. 24; 10 A.M. to 3.45 P.M. Cloudy to fair; old snow and ice; wind southwest, brisk; temp. 40°. Observers together. Holbœll's Grebe, 2; Horned Grebe, 1; Loon, 3; Black Guillemot, 1; Iceland Gull, 32; Great Black-backed Gull, 25; Herring Gull, 200; Red-breasted Merganser, 30; Black Duck, 2; Goldeneye, 44; Old-squaw, 12; Scoter, 5; White-winged Scoter, 4; Northern Flicker, 5; Prairie Horned Lark, (collected), 1; Crow, 45; Starling, 100; Meadowlark, 2; Bronzed Grackle, 1; Snow Bunting, 21; Ipswich Sparrow, 1; Tree Sparrow, 3; Northern Shrike, 3; Black-capped Chickadee, 2. Total, 24 species, 546 individuals. The remarkable flight of Iceland Gulls consisted chiefly of creamy white birds, for two only were in the pearl-gray adult plumage.—L. R. TALBOT and BARRON BRAINERD.

Brewster, Mass. (walks taken from a central point to favorable localities).—Dec. 27; 4 hours, between 8.15 A.M. and 4 P.M. Clear, with slight flurries of snow; wind north, rather heavy; temp. about 15°; ground bare. About 9 miles. Black-backed Gull, 1; Herring Gull, 10; Black Duck, 85; American Goldeneye, 4; Canada Goose, 1; Flicker, 6; Horned Lark, 6; Blue Jay, 1; Crow, 8; Meadowlark, 15; Goldfinch, 3; Tree Sparrow, 10; Slate-colored Junco, 1; Myrtle Warbler, 14; Chickadee, 1; Golden-crowned Kinglet, 2. Total, 16 species, about 168 individuals.—WARREN F. EATON.

Cohasset, Mass. (Sandy Cove region, along shore and through the woods).—Dec. 27; 2 to 4 P.M. Overcast; 1 in. of fresh snow and a little still falling; wind northeast, light; temp. 20°. Black-backed Gull, 4; Herring Gull, 50; Red-breasted Merganser, 1; Black Duck, 3; American Goldeneye, 4; White-winged Scoter, 10; Hairy Woodpecker, 1; Downy Woodpecker, 1; Flicker, 2; Blue Jay, 1; Tree Sparrow, 4; Slate-colored Junco, 3; Cedar Waxwing, 9; Myrtle Warbler, 10; Brown Creeper, 1; Golden-crowned Kinglet, 4; Robin, 40. Total, 17 species, 148 individuals. (I consider this list as of value only as showing the *small* number of birds present this winter in comparison with other years.) —JOHN B. MAY, M. D.

Cohasset, Mass.—Dec. 28; 10.05 A.M. to 4.30 P.M. Cloudy, with frequent snow-flurries; wind variable, light; temp. 30°. Common Loon, 6; Black-backed Gull, 12; Herring Gull, 120; Red-breasted Merganser, 27; Black Duck, 110; American Goldeneye, 9; Old-squaw, 1; Brant, 3; Downy Woodpecker, 1; Northern Flicker, 4; Horned Lark, 7; Blue Jay, 3; Crow, 19; Purple Finch, 3; Goldfinch, 1 male; Tree Sparrow, 40; Slate-colored Junco, 25; Song Sparrow, 7; Myrtle Warbler, 36; Black-capped Chickadee, 50; Golden-crowned Kinglet, 4; Robin, 33. Total, 22 species, 518 individuals.—BARRON BRAINERD and HASKELL B. CURRY.

Edgartown, Martha's Vineyard, Mass.—Dec. 26; 8 to 11.30 A.M. and 1.30 to 3.30 P.M. Clear; ground bare; wind northwest, strong; temp. 22°, a little warmer at noon. Five miles on foot. Herring Gull, 40; Baldpate, 3 drakes; Night Heron, 8; Sharp-shinned Hawk, 1; Flicker, 2; Horned Lark, 55; Blue Jay, 6; Crow, 33; Meadowlark, 33; Gold-

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finch, 1; Tree Sparrow, 28; Junco, 9; Song Sparrow, 11; Myrtle Warbler, 7; Pine Warbler, 1; Mockingbird, 1; Chickadee, 30; Robin, 2. Total, 18 species, about 270 individuals. A small colony of Night Herons is here each winter. Apparently the same Mockingbird was with us last winter. I have seen 14 other species, including the Northern Shrike and the Migrant Shrike, this month.—MONA WORDEN.

Fairhaven, Mass.—Dec. 24; 9 A.M. to 2 P.M. Partly cloudy; ground bare; wind southwest, strong; temp. 40°. Area, 2 by ½ miles; upland, woods, marsh, beach. Observers together. Herring Gull, 40; Purple Sandpiper, 5; Downy Woodpecker, 1; Flicker, 5; Horned Lark, 30; Crow, 13; Starling, 40; Goldfinch, 52; Junco, 36; Song Sparrow, 5; Tree Sparrow, 9; Chickadee, 20; Robin, 12. Total, 13 species, 268 individuals.—FRANCES CONGDON and MABEL L. POTTER.

Holyoke, Mass. (vicinity of Mt. Tom Range).—Dec. 25; 7 A.M. to 12.30 P.M. Sky overcast, with faint sun at times; 8 to 10 in. of snow; wind north, light; temp. 37° at start, 42° at return. Five to 6 miles on foot. Observers together. Pheasant, 1; Ruffed Grouse, 5; Sparrow Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 1; Blue Jay, 18; American Crow, 14; Starling, 20; Tree Sparrow, 7; Black-capped Chickadee, 15. Total, 11 species, 85 individuals. Have observed recently a Northern Shrike and a flock of Horned Larks.—JOHN S. BAGG and AARON C. BAGG.

Mattapoisett, Mass.—Dec. 25; 8 A.M. to 1.30 P.M. and 2.30 to 4.30 P.M. Cloudy, some sleet; ground bare; wind northwest, moderate; temp. 43° to 36°. Observers together. Seven miles on foot. Horned Grebe, 2; Loon, 2; Herring Gull, 11; Merganser, 3; Black Duck, 3; Scaup, 7; Goldeneye, 7; Old-squaw, 23; Scoter, 80; White-winged Scoter, 3; Surf Scoter, 2; Downy Woodpecker, 2; Flicker, 2; Blue Jay, 2; Crow, 14; Meadowlark, 2; Rusty Blackbird, 16; Tree Sparrow, 1; Song Sparrow, 1; Myrtle Warbler, 50; Brown Creeper, 8; Chickadee, 26; Robin, 4. Total, 23 species, 271 individuals.—MR. and MRS. J. E. NORTON SHAW.

Wareham, Mass.—Dec. 23; sunrise to sunset. Fair; ground generally bare, with scattered patches of ice; wind northwest, light; temp. 14° at start, 28° at return. About 10 miles, mostly on foot. Observers together. Horned Grebe, 1; Black-backed Gull, 1; Herring Gull, 45; Red-breasted Merganser, 1; Black Duck, 154; American Goldeneye, 225; Old-squaw, 7; White-winged Scoter, 3; Surf Scoter, 10; Wilson's Snipe, 1; Ruffed Grouse, 3; Red-shouldered Hawk, 1; Belted Kingfisher, 1; Downy Woodpecker, 2; Northern Flicker, 4; Horned Lark, 28; Blue Jay, 21; Crow, 20; Starling, 60; Meadowlark, 15; Goldfinch, 4; Snow Bunting, 5; Tree Sparrow, 130; Slate-colored Junco, 175; Song Sparrow, 15; Swamp Sparrow, 2; Northern Shrike, 1; Myrtle Warbler, 7; Brown Creeper, 4; Chickadee, 120; Golden-crowned Kinglet, 7. Total, 31 species, 1,073 individuals.—DR. WINSOR M. TYLER, C. A. ROBBINS and FRANK ROBBINS.

West Medford, Lawrence Woods and part of West Side Middlesex Fells, Mass.—Dec. 23; 8.30 A.M. to 12.30 P.M. Clear; wind east, light; temp. 10° to 18°. Pheasant, 7; Hairy Woodpecker, 1; Flicker, 1; Blue Jay, 2; Crow, 9; Starling, 8 (300 in our trees Dec. 20 and 21); Redpoll, 3; Goldfinch, 2; Tree Sparrow, 1; Northern Shrike, 1; Brown Creeper 1; Chickadee, 7. Total, 12 species, 43 individuals.—EDMUND and LIDIAN E. BRIDGE.

Kingston and Narragansett Pier, R. I.—Dec. 24; 8 A.M. to 4.30 P.M. Overcast; a little snow on ground; wind southwest, strong; temp. 35° at start, 40° at return. Holbœll's Grebe, 1; Herring Gull, 19; Red-breasted Merganser, 2; Black Duck, 25; Buffle-head, 3; Ruffed Grouse, 1; Sparrow Hawk, 1; Downy Woodpecker, 2; Northern Flicker, 6; Horned Lark, 150; Blue Jay, 4; Crow, 8; Meadowlark, 7; Goldfinch, 16; Tree Sparrow, 16; Slate-colored Junco, 23; Song Sparrow, 1; Northern Shrike, 2; Myrtle Warbler, 35; Mockingbird, 1; Brown Creeper, 3; White-breasted Nuthatch, 2; Chickadee, 40; Golden-crowned Kinglet, 4. Total, 24 species, 372 individuals.—EDWARD H. PERKINS.

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Warwick, R. I.—Dec. 23; 9 A.M. to 3.45 P.M. Clear; 3 in. of snow; wind northwest, light; temp. 18° at start, 36° at return. Ten miles on foot. Herring Gull, 16; Red-breasted Merganser, 20; Scaup, 2,000; Sparrow Hawk, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Flicker, 8; Blue Jay, 7; American Crow, 29; Goldfinch, 15; Starling, 500; Tree Sparrow, 34; Song Sparrow, 3; Swamp Sparrow, 1; Snow Bunting, 12; Northern Shrike, 1; Myrtle Warbler, 9; Brown Creeper, 2; White-breasted Nuthatch, 1; Chickadee, 25; Robin, 6. Total, 21 species, 2,594 individuals. Juncos absent, Myrtle Warblers and Chickadees uncommon, in comparison with last year. Providence taxidermists have had more than 50 Goshawks, 18 Great Horned Owls and 3 Snowy Owls brought in.—HARRY S. HATHAWAY.

Bristol, Conn. (Northwestern Section).—Dec. 25; 7 A.M. to 2.30 P.M. Cloudy, then clearing at 9 o'clock, clouding over again and snow-squalls, partly clear at noon; 10 to 12 in. of old snow; wind north, very light, later becoming fresh and ending at northwest, keen, with a dirty, streaky sky; temp. 38° at start, 34° at finish. About 11 miles on foot. Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 41; Crow, 38; Starling, 730; Meadowlark, 2; Tree Sparrow, 13; Junco, 8; Song Sparrow, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Black-capped Chickadee, 4. Total, 13 species, 846 individuals.—ELBERT E. SMITH, ROYAL W. FORD and FRANK BRUEN.

Fairfield, Conn. (Birdcraft Sanctuary and Fairfield Beach).—Dec. 25; sunrise to sunset. Cloudy; temp. 34°; 4 in. of snow. Herring Gull, 120; Red-breasted Merganser, 2; Black Duck, 150; Lesser Scaup, 7; American Goldeneye, 3; Old-squaw, 40; White-winged Scoter, 15; Black-crowned Night Heron, 7; Sparrow Hawk, 2; Barred Owl, 1; Downy Woodpecker, 7; Blue Jay, 7; American Crow, 15; Starling, 300; Meadowlark, 1; Purple Finch, 2; White-throated Sparrow, 2; Tree Sparrow, 17; Junco, 35; Song Sparrow, 8; Northern Shrike, 2; Myrtle Warbler, 5; Brown Thrasher, 1; White-breasted Nuthatch, 2; Chickadee, 3; Robin, 1. Total, 26 species, 755 individuals.—FRANK NOVAK, Warden.

Hartford, Conn.—Dec. 24; 9 A.M. to 2 P.M. Clear; 5 to 10 in. of snow and crust; temp. zero to 24° above; wind light. Ten-mile walk. Excellent observations. Variable country, but no heavy timber—open bottom lands and swamps along the Connecticut River north from Hartford. Merganser, 65+; Red-breasted Merganser, 1; Ring-neck Pheasant, 1; Sparrow Hawk, 3; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 11; Flicker, 1; Prairie Horned Lark, flock of 16; Blue Jay, 6; Crow, 500+; Starling, 8; Meadowlark, 3; Purple Finch, flock of 12; Goldfinch, 5; Tree Sparrow, 500+; Song Sparrow, 2; Swamp Sparrow, 3; Migrant Shrike, 1; Brown Creeper, 7; White-breasted Nuthatch, 1; Chickadee, 6. Total, 22 species, 1,154+ individuals.—GEO. T. GRISWOLD.

Hartford, Conn.—Dec. 25; 10 A.M. to 12.30 P.M. Cloudy; 8 in. of snow; wind northwest; temp. 32°. Hairy Woodpecker, 1; Blue Jay, 7; Crow, 12; Starling, 56; Goldfinch, 16; Tree Sparrow, 6; (Migrant?) Shrike, 1; Brown Creeper, 1; Chickadee, 10; Robin, 1. Total, 10 species, 111 individuals.—CLIFFORD M. CASE.

West Hartford, Conn.—Dec. 23; 7 to 10 A.M. and 2 to 4.30 P.M. Clear; still; 9 in. of crusted snow; temp. at start 0°, at return 18°. Nine miles of very hard tramping. Birds inactive. Ruffed Grouse, 1; Sparrow Hawk, 2; Hairy Woodpecker, 4; Downy Woodpecker, 2; Blue Jay, 2; Crow, 100; Starling, 200; Redpoll, 12; Goldfinch, 3; Tree Sparrow, 15; Junco, 10; White-breasted Nuthatch, 3; Black-capped Chickadee, 2; Golden-crowned Kinglet, 1. Total, 14 species, 347 individuals.—EDWIN H. MUNGER.

New Haven, Conn. (from a window of the New Haven Hospital).—Dec. 25. Snowing; wind north, light; temp. 30°. Downy Woodpecker, 1; Starling, 3. Total, 2 species, 4 individuals.—CLIFFORD H. PANGBURN.

New London, Conn. (to Niantic and Black Point).—Dec. 27; 8.50 A.M. to 5.20 P.M. Clear; ground mostly bare; wind northwest, light; temp. 11° at start. Fifteen miles on foot. Horned Grebe, 3; Common Loon, 3; Herring Gull, 172; Red-breasted Merganser,

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7; Black Duck, 2; Baldpate, 10; Scaup sp., 200; American Goldeneye, 18; Bufflehead, 1; Sharp-shinned Hawk, 1; Kingfisher, 1; Downy Woodpecker, 3; Blue Jay, 4; Crow, 15; Meadowlark, 7; Goldfinch, 34; Tree Sparrow, 34; Junco, 22; Song Sparrow, 9; Myrtle Warbler, 12; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 12; Robin, 1; Bluebird, 7. Also 200 unidentified Ducks. Total, 25 species, about 678 individuals.—FRANCES MINER GRAVES.

Norwalk, Conn.—Dec. 24; 8.30 A.M. to 1 P.M. and 2 to 5 P.M. Partly cloudy, a few light showers in the morning; wind southwest, light; temp. 34°; about 10 in. of snow. Twelve miles on foot. Herring Gull, 14; Black Duck, 3; Scaup, 500; Goldeneye, 3; Old-squaw, 42; White-winged Scoter, 6; Hairy Woodpecker, 3; Downy Woodpecker, 5; Horned Lark, 36; Blue Jay, 14; Crow, 7; Starling, 104; Meadowlark, 4; Purple Finch, 4; Goldfinch, 2; White-throated Sparrow, 1; Tree Sparrow, 6; Field Sparrow, 1; Junco, 7; Song Sparrow, 14; Brown Creeper, 1; White-breasted Nuthatch, 2; Black-capped Chickadee, 8; Robin, 1. Total, 24 species, 788 individuals.—ARETAS A. SAUNDERS.

South Windsor, Conn.—Dec. 25; 8 A.M. to 4 P.M. Cloudy; 5 to 10 in. of snow; temp. 32°; wind light. Twelve-mile walk. Herring Gull, 2; Merganser, 2; Black Duck, 1; Ruffed Grouse, 2; Sharp-shinned Hawk, 1; Sparrow Hawk, 1; Saw-whet Owl, 1; Screech Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 6; Flicker, 1; Prairie Horned Lark, 50; Blue Jay, 6; Crow, 200; Starling, 25; Meadowlark, 2; Tree Sparrow, 200; Junco, 1; Song Sparrow, 2; Swamp Sparrow, 1; Northern Shrike, 1; Brown Creeper, 4; White-breasted Nuthatch, 3; Chickadee, 12. Total, 24 species, 527 individuals. I took a three-day census and the additional species included 1 Goshawk and 1 Migrant Shrike.—C. W. VIBERT.

Douglaston, L. I., N. Y.—Dec. 23; 9 A.M. to 1 P.M. Clear; 4 or 5 in. of snow; wind northwest, light; temp. 19° at start, 34° at return. Observers together. Black-backed Gull, 2; Herring Gull, 90; (Goldeneye?) Duck, 15; Ducks (other than the supposed Goldeneyes), 16; (Short-eared?) Owl, 1 (flying over marsh); Belted Kingfisher, 2; Downy Woodpecker, 3; Crow, 35; Fish Crow, 75 (identified by their calls while feeding upon a garbage-dump with House Sparrows and Starlings); Starling, 400 (nearly all in one flock); Meadowlark, 7; Goldfinch, 4; Tree Sparrow, 24; Junco, 14; Song Sparrow, 24; Swamp Sparrow, 2; Black-capped Chickadee, 2 (one sang). Total, 17 species, about 716 individuals.—MR. and MRS. G. CLYDE FISHER and RUTH ANNA FISHER.

East Marion, L. I., N. Y.—Dec. 26; 9.30 A.M. to 4 P.M. Clear; ground nearly bare; wind northwest, light; temp. 20° at start, 23° at return. The chief territory covered was about a half-mile of shore along Peconic Bay and a piece of cedar and oak woods with adjoining fields. Horned Grebe, 1; Herring Gull, 150+; Scaup, 5; Old-squaw, 15; Surf Scoter, 20; Belted Kingfisher, 1; Downy Woodpecker, 1; Flicker, 4; Horned Lark, 3; Blue Jay, 5; Crow, 21; Starling, 70; Purple Finch, 1; Goldfinch, 4; Tree Sparrow, 50; Junco, 30; Song Sparrow, 1; Myrtle Warbler, 25; Black-capped Chickadee, 8; Robin, 2. Total, 20 species, about 417 individuals. An unusually small number of water-fowl were near enough to shore for identification. A Migrant Shrike was seen on Dec. 6.—MABEL R. WIGGINS.

Ft. Salonga, L. I., N. Y., near Smithtown. Covered most of the territory within a radius of 2 miles of Sunken Meadow.—Dec. 27; 7 A.M. to 3 P.M. Clear; 3 in. of snow; wind northwest, light; temp. 14° at start, 18° at return. Black-backed Gull, 1; Herring Gull, 101; Ring-billed Gull, 19; Bonaparte's Gull, 1; Black Duck, one flock of 1,500+, 7 single; Green-winged Teal, 1; Scaup, 1; American Goldeneye, 34; Old-squaw, 21; American Scoter, 10; White-winged Scoter, 36; Surf Scoter, 3; Canada Goose, 1; Brant, 1; Black-crowned Night Heron, 1; Wilson's Snipe, 1; Goshawk (?), 1; Red-tailed Hawk, 1; Bald Eagle, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Flicker, 4; Blue Jay, 2; Crow, 300+; Starling, 100; Grackle, 3; Tree Sparrow, 57; Junco, 200+; Song Sparrow, 17; Myrtle Warbler, 16; Chickadee, 144; Robin, 1; Bluebird,

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7. Total, 133 species, 2,700+ individuals. The Green-winged Teal arrived two months ago in some fresh-water ponds and has remained there ever since with a few tame Mallards. It is a fine male.—THEODOR DREIER.

Hempstead, L. I., N. Y.—Dec. 23; 8 A.M. to 3.30 P.M. and (after dark) 5.30 to 6.30 P.M. Clear; about 6 in. of frozen snow; average temp. 24°. Herring Gull, 27; Sharp-shinned Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Long-eared Owl, 1; Screech Owl, 3; Downy Woodpecker, 3; Horned Lark, flock of 58; Blue Jay, 21; Crow, 190; Starling, 58; Goldfinch, 8; Savannah Sparrow, 2; Tree Sparrow, 47; Slate-colored Junco, 92; Song Sparrow, 29; Towhee, 4 together; Winter Wren, 1; Brown Creeper, 5; Red-breasted Nuthatch, 2; Chickadee, 11; Robin, 2. Total, 23 species, 569 individuals. The four Towhees, three males and a female, allowed one to get within a few yards; also heard them call several times. They were seen several times before in the same place, oak shrubbery in a pine grove. The Savannah Sparrows, together, also permitted close approach so they could be accurately identified. They were also seen Dec. 15, and on the same date 3 Mourning Doves. Other occurrences that seemed unusual to me were: 2 Hermit Thrushes seen Dec. 9, and 2 Woodcock and 1 Fox Sparrow, Dec. 16.—THEODORE ROEHNER.

Long Beach, Nassau Co., L. I., N. Y.—Dec. 20. Moderating after severe weather; temp. 35° at daylight and nightfall; ponds and marshes frozen; some remaining snow; wind southwest, light; morning gray, some half-sunshine in afternoon; a broad swell on the ocean breaking into a high, steady surf. Horned Grebe, 4; Loon, 1; Black-backed Gull, numerous, at one time fully 100 adults in sight; Herring Gull, abundant; Red-breasted Merganser, several pairs and single birds; Black Duck, innumerable, lying off shore in straggling beds extending with little interruption for several miles along the beach, very few in flight; Red-legged Black Duck, a perfectly fresh bird found dead on the shore; Mallard, a drake, with Black Ducks; Pintail, 5 drakes, with Black Ducks; Greater Scaup, two single birds, male and female, and well out three flocks of Scaups, 17 to 70; Goldeneye, 1 female; Old-squaw, 20; American Scoter, an adult; Surf Scoter, flock of 20—several small flocks of Scoters were almost certainly of both these species; White-winged Scoter, two flocks of 20 and 30; all Ducks in continuous flight were going east—larger numbers approximate; Sanderling, 2 together; Canada Geese, 5 passing out to sea, southeast; Brant, 2 with Gulls on a sand-bar and one on the ocean shore, shot by a gunner—an immature bird; Sparrow Hawk, 1; Rough-legged Hawk, a pair; Horned Lark, frequent in small flocks; Starling, common, one flock of about 200; Meadowlark, 1; Ipswich Sparrow, 1; Sharp-tailed Sparrow, 3; Seaside Sparrow (?)—a *Passerherbulus*, quite certainly this, but identification not technical; Tree Sparrow, small flock; Song Sparrow, several; Myrtle Warbler, locally numerous. A Northern Shrike seen at Hewlett, less than 3 miles from Long Beach. Total, 30 species. The best Long Beach bird-day for the season that I have ever known.—E. P. BICKNELL.

Long Beach, Nassau Co., L. I., N. Y.—Dec. 23; 10.05 A.M. to 5 P.M. Clear; ground bare, frozen; ponds and pools frozen, cakes of ice on the beach at Point Lookout; incoming tide; wind northwest, light; temp. 30° to 35°. Loon sp., 1; Black-backed Gull, 5; Herring Gull, 2,000; Red-breasted Merganser, 6; Black Duck, 3; Scaup, 6; Old-squaw, 22; American Scoter, 1; Sanderling 1 (flew by with strong, vigorous flight); Rough-legged Hawk, 2 together; Short-eared Owl, 1; Crow, 15; Starling, 5 (in the village); Tree Sparrow, 1; Junco, 1; Song Sparrow, 8; Myrtle Warbler, 4. Total, 17 species, about 2,083 individuals. The weather was too mild and calm for many water-fowl.—GEORGE E. HIX.

Orient, L. I., N. Y.—Dec. 24; 6.45 A.M. to 2 P.M. (three observers); 3.30 P.M. until dark (Latham). Cloudy most of the day, with brief periods of sunshine; a little frozen snow on the ground; brisk westerly winds, veering slightly toward south after noon, becoming light with a trace of rain toward evening; temp. 31° at 6 A.M., rising above

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the freezing-point by midday, and thawing perceptibly in the sun. Country visited: Sound and Gardiner's Bay coasts, dune beaches, plowed fields, salt meadows, frozen swamps and lagoons, red cedar groves, deciduous woods on lowlands and hills. Horned Grebe, 4; Common Loon, 3; Glaucous Gull, 2; Iceland Gull, 1; Black-backed Gull, 6; Herring Gull, 280; Red-breasted Merganser, 60; Mallard, 1 (in gunner's bag); Black Duck, 16; Greater Scaup, 100 (some in gunner's bag); American Goldeneye, 5; Bufflehead, 65; Old-squaw, 200; White-winged Scoter, 525; Surf Scoter, 115; Virginia Rail, 1 (dead); Pheasant, 1 (in gunner's bag); Bob-white, 7 (in gunner's bag); Marsh Hawk, 1; Cooper's Hawk, 2; Sparrow Hawk, 3; Long-eared Owl, 2; Screech Owl, 2; Kingfisher, 2; Downy Woodpecker, 4; Flicker, 8; Horned Lark, 600; Blue Jay, 2; American Crow, 465; Starling, 125; Meadowlark, 12; Cowbird, 44; Rusty Blackbird, 3; Grackle, 11; American Goldfinch, 20; Snow Bunting, 295; Savannah Sparrow, 1; White-throated Sparrow, 1; Tree Sparrow, 75; Field Sparrow, 9; Junco, 3; Song Sparrow, 60; Northern Shrike, 3; Myrtle Warbler, 215; Carolina Wren, 2; Wren sp., 1; Black-capped Chickadee, 20; Golden-crowned Kinglet, 5; Robin, 34. Total, 49 species (including 4 dead), 3,212 individuals. The Virginia Rail was found by a wood road, frozen with its head tucked under its wing-coverts; it was so thin that it exemplified the adage, but it had not been long dead. At least two of the Horned Larks closely observed appeared to be Prairie Horned Larks, although most were the usual form. The unidentified Wren was not a Carolina and probably not a Winter Wren. On Dec. 23, Mr. Latham saw: Canada Goose, 5; Sharp-shinned Hawk, 1; Rough-legged Hawk, 1; Turkey Vulture, 1 (latest Long Island record); Fox Sparrow, 1; Brown Creeper, 1. On Dec. 22, Double-crested Cormorant, 1; Fish Crow, 1. On Dec. 25, Red-winged Blackbird, 7.—ROY LATHAM, JOHN TREADWELL NICHOLS and ROBERT CUSHMAN MURPHY.

Speonk, L. I., N. Y.—Dec. 28; 8 A.M. to 3 P.M. Cloudy; ground bare; wind southwest to west, moderate; temp. 31° to 42°. Herring Gull, 17; Great Blue Heron, 1; Black-crowned Night Heron, 1; Marsh Hawk, 1; Rough-legged Hawk, 2; Sparrow Hawk, 1; Belted Kingfisher, 1; Downy Woodpecker, 2; Horned Lark, 33; Blue Jay, 12; Crow, 7; Starling, 28; Meadowlark, 55; Tree Sparrow, 70; Song Sparrow, 6; Northern Shrike, 1; Brown Creeper, 3; White-breasted Nuthatch, 1; Chickadee, 6; Golden-crowned Kinglet, 12. Total, 20 species, 260 individuals.—LE ROY WILCOX.

Albany, N. Y. (western outskirts).—Dec. 23; 10 A.M. to 2 P.M. Clear; 4 to 10 in. of snow; wind south, light; temp. 6° at start, 22° at return. Six miles on foot. Observers together. Downy Woodpecker, 8; Blue Jay, 1; Crow, 150; Starling, 150; Tree Sparrow, 50; Brown Creeper, 4; White-breasted Nuthatch, 5; Chickadee, 2; Golden-crowned Kinglet, 2. Total, 9 species, 372 individuals. On Dec. 25, 12 Song Sparrows (one sang) and a Robin—both rare here in winter.—JOSEPH S. LAWRENCE, M.D., and CLARENCE HOUGHTON.

Geneva, N. Y. (Lake-shore and S. Main St. region, within city limits).—Dec. 24; 9 A.M. to 12.30 P.M. and 2 to 5 P.M. Cloudy; breeze southwest, light; temp. 40° to 50°. Observers together only in the forenoon. Horned Grebe, 7; Herring Gull, 13; Ring-billed Gull, 1; American Merganser, 4; Redhead, 7,000; Canvasback, 500; Lesser Scaup, 9; Greater Scaup, 700; American Goldeneye, 8; Bufflehead, 4; Old-squaw, 2; Ring-neck Pheasant, 7; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 7; Red-headed Woodpecker, 1; Crow, 13; Tree Sparrow, 5; Junco, 3; Song Sparrow, 2; Cedar Waxwing, 30; Brown Creeper, 7; White-breasted Nuthatch, 11; Chickadee, 8; Golden-crowned Kinglet, 2; Robin, 1. Total, 26 species, about 8,347 individuals.—WILLIAM H. EDDY and E. H. EATON.

Hamburg, N. Y.—Dec. 23; 8.45 A.M. to 1.15 P.M. Clear to slightly cloudy; ground lightly covered with fresh snow, some old drifts still remaining; wind southwest, light; temp. 22° at start, 34° at return. Eight miles on foot through three large wood-lots, one

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small swamp and intervening farm-land. Ruffed Grouse, 1; Barred Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 9; Red-headed Woodpecker, 4; Blue Jay, 7; Crow, 7; Purple Finch, 22; Goldfinch, 35; Snow Bunting, one flock of 250; Tree Sparrow, 45; Brown Creeper, 5; White-breasted Nuthatch, 4; Chickadee, 12; Golden-crowned Kinglet, 4. Total, 15 species, about 407 individuals. Small flock of Red Crossbills noted here Nov. 29.—THOMAS L. BOURNE.

New Rochelle, N. Y. (Beechmont Park, Mount Tom Road and several other streets).—Dec. 28; 9.30 A.M. to 12.30 P.M. and 2 to 3 P.M. Cloudy; 5 in. of snow; no wind; temp. 27° to 34°. Herring Gull, 7; Ring-necked Pheasant, 1; Downy Woodpecker, 2; Blue Jay, 3; American Crow, 5; Starling, 37; Goldfinch, 4; Junco, 2; Song Sparrow, 1; Brown Creeper, 5; White-breasted Nuthatch, 2; Robin, 5. Total, 12 species, 74 individuals.—OLNEY M. RAYMOND.

New York City (Pelham Bay Park region around City Island station).—Dec. 22; 11 A.M. to 3.15 P.M. Clear; 8 in. of snow; wind west, fairly strong; temp. 40°. Observers together. Great Black-backed Gull, 1; Herring Gull, 100+; Duck sp., 1; Bobwhite, 8; Pheasant, 3; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Crow, 14; Starling, 45; Red-winged Blackbird, 1; Meadowlark, 3; Purple Finch, 1 brown; Goldfinch, 5; Tree Sparrow, 10; Slate-colored Junco, 9; Song Sparrow, 4; Brown Creeper, 2; White-breasted Nuthatch, 4. Total, 20 species, about 218 individuals.—WALDEN PELL, 2nd, and S. MORRIS PELL.

New York City (Clason Point, Unionport and Bronx Park). Trolley used between Unionport and Bronx Park.—Dec. 25; 12 to 4.15 P.M. Cloudy; 4 in. of wet snow; wind northwest, light; temp. 32°. Herring Gull, 450; Black Duck, 55; Scaup, 1; Black-crowned Night Heron, 48; Red-tailed Hawk, 3; Sparrow Hawk, 2; Downy Woodpecker, 5; Flicker, 1; Blue Jay, 6; Crow, 52; Starling, 450; Meadowlark, 23; Grackle, 29; White-throated Sparrow, 4; Tree Sparrow, 100; Junco, 33; Song Sparrow, 44; Fox Sparrow, 2; Brown Creeper, 3; White-breasted Nuthatch, 2; Black-capped Chickadee, 1. Total, 21 species, 1,314 individuals. About 100 more Ducks on the Sound, too far away for identification. On Dec. 21, 2 Northern Shrikes were seen in Van Cortlandt Park.—E. G. NICHOLS and L. N. NICHOLS.

New York City (Bull's Head to Richmond, via Greenridge, Staten Island).—Dec. 27; 9 A.M. to 4.30 P.M. Clear; snow on ground; wind northwest, fresh; temp. 15°, rising. Herring Gull, 10; Great Blue Heron, 1; Sparrow Hawk, 1; Belted Kingfisher, 1; Downy Woodpecker, 2; Crow, 8; Starling, 11; White-throated Sparrow, 2; Tree Sparrow, 18; Junco, 35; Song Sparrow, 14; Cardinal, 1. Total, 12 species, 104 individuals.—MILTON H. HOGE.

New York City (Staten Island, West New Brighton to Richmond to Bull's Head to West New Brighton).—Dec. 26; 8.30 A.M. to 2.30 P.M. Clear; about 3 in. of snow; wind westerly, light; temp. 15° to 25°. Herring Gull, 150; Red-shouldered Hawk, 1; Sparrow Hawk, 3; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 8; Blue Jay, 12; American Crow, 80; Starling, 24; Meadowlark, 30; Goldfinch, 13; Pine Siskin, 38; Tree Sparrow, 46; Slate-colored Junco, 25; Song Sparrow, 30; Brown Creeper, 3; Cardinal, 7; White-breasted Nuthatch, 1; Tufted Titmouse, 3; Robin, 3. Total, 20 species, 428 individuals.—WILLIAM H. LONG.

New York City (Richmond Valley to Oakwood Heights, Staten Island).—Dec. 23; 7.15 A.M. to 5 P.M. Clear; ground snow-covered; dead calm; temp. 12° to 33°. Black-backed Gull, 1; Herring Gull, 5,092; Black Duck, 5; Greater Scaup, 1; Goldeneye, 6; Bufflehead, 27; Purple Sandpiper, 1; Ring-necked Pheasant, 2; Red-shouldered Hawk, 3; Sparrow Hawk, 4; Screech Owl, 1; Great Horned Owl, 1; Downy Woodpecker, 3; Northern Flicker, 2; Horned Lark, 13; Blue Jay, 6; American Crow, 30; Starling, 42; Meadowlark, 22; Goldfinch, 3; Tree Sparrow, 4; Song Sparrow, 10; Swamp Sparrow, 1; Northern Shrike, 2 (one sang); Myrtle Warbler, 1; White-

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breasted Nuthatch, 1; Tufted Titmouse, 9. Total, 27 species, 5,294 individuals.—HOWARD H. CLEAVES.

Poughkeepsie, N. Y.—Dec. 26; 9 A.M. to 1 P.M. Clear; no wind; temp. 20°; 8 in. of snow. Observers together. Barred Owl, 1; Screech Owl, 1; Belted Kingfisher, 1; Downy Woodpecker, 6; Blue Jay, 10; Crow, 500; Starling, 10; Tree Sparrow, 5; Junco, 2; Brown Creeper, 2; White-breasted Nuthatch, 8; Chickadee, 2; Golden-crowned Kinglet, 3. Total, 13 species, about 550 individuals.—MARGERY SAUNDERS, ANTHONY SAUNDERS and F. A. SAUNDERS.

Rochester, N. Y. (Highland and Durand-Eastman Parks and vicinities).—Dec. 28; 7 A.M. until dark. Cloudy, with snow-flurries; ground frozen with about 5 in. of snow; wind northwest, 25 miles per hour; temp. 13° at start, 3° at finish. Herring Gull, 18; Ring-billed Gull, 3; Ring-necked Pheasant, 2; Downy Woodpecker, 1; Crow, 8; Tree Sparrow, 2; Slate-colored Junco, 2; Cedar Waxwing, 4; Brown Creeper, 1. Total, 9 species, 41 individuals.—WM. L. G. EDSON and R. E. HORSEY.

Rochester, N. Y. (Cobb's Hill and Highland Park).—Dec. 27; 8 A.M. to 12.30 P.M. Clear; 5 in. of snow; wind variable, light; temp. 15° at start, 20° at return. Observers together. Herring Gull, 6; Ring-necked Pheasant, 3; Northern Flicker, 1; Crow, 9; Tree Sparrow, 1; Slate-colored Junco, 4; Song Sparrow, 1; Northern Shrike, 1; Brown Creeper, 1; White-breasted Nuthatch, 1; Robin, 1. Total, 11 species, 29 individuals. The Song Sparrow was studied with an 8x glass at 25 feet. The streaks and spots on its breast were observed and its note of alarm was heard several times.—RICHARD M. CHASE and GEORGE P. FREELAND.

Schenectady, N. Y. (Central Park and vicinity).—Dec. 25; 9.30 A.M. to 2 P.M. Cloudy and dull; wind northwest, strong; temp. 31°; about 7 in. of snow. Distance covered, about 7 or 8 miles. Downy Woodpecker, 2; Blue Jay, 4; Crow, 30; Brown Creeper, 2; White-breasted Nuthatch, 3; Black-capped Chickadee, 12. Total, 6 species, 53 individuals.—WALTER PHILO.

Syracuse, N. Y.—Dec. 26; 10.45 A.M. to 3.20 P.M. Route from Fayetteville to Kirkville through woods. Fair; no wind; ground covered with snow; temp. 22°. Downy Woodpecker, 5; Blue Jay, 5; Crow, 7; Brown Creeper, 1; White-breasted Nuthatch, 4; Chickadee, 9. Total, 6 species, 31 individuals.—NETTIE M. SADLER.

Tarrytown, N. Y.—Dec. 28; 9.30 to 11.30 A.M. and 1.30 to 4.30 P.M. Overcast; 6 in. of crusted snow; wind northwest, calm to brisk later north; temp. 25°. About 8 miles on foot. Sparrow Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 5; Blue Jay, 3; American Crow, 8; Starling, 50+; (Purple ?) Grackle, 20 (first record for this time of year); Goldfinch, 30+; Tree Sparrow, 60; Song Sparrow, 3; Migrant Shrike, 1; Brown Creeper, 6; White-breasted Nuthatch, 4; Black-capped Chickadee, 16. Total, 15 species, 209+ individuals.—WILLIAM P. OSBORN.

Sandy Hook, N. J., and Lower New York Bay.—Dec. 22; 8.15 A.M. to 4.40 P.M. Mostly clear; ground bare; wind northwest, brisk; temp. 33° at noon. Ten miles by steamboat, 6 on foot. Observers together after 11 A.M. Holbœll's Grebe, 1; Black-backed Gull, 3 adults; Herring Gull, 1,000; Bonaparte's Gull, 1; Black Duck, 10; Golden-eye, 1; Old-squaw, 2; White-winged Scoter, 14; Downy Woodpecker, 1; Flicker, 8; American Crow, 50; Fish Crow, 75; Starling, 70; Meadowlark, 1; Snow Bunting, 3; Ipswich Sparrow, 5; Sharp-tailed Sparrow, 2 (one seen excellently, *P. caudacutus*—C. H. R.); White-throated Sparrow, 9; Tree Sparrow, 10; Junco, 38; Song Sparrow, 5; Cardinal, 8; Cedar Waxwing, 3; Northern Shrike, 2; Myrtle Warbler, 35; Brown Thrasher, 1 (seen excellently—J. P. Y.); Carolina Wren, 2; Black-capped Chickadee, 2 (one sang); Hermit Thrush, 2; Robin, 100. Total, 30 species, about 1,465 individuals.—JOHN P. YOUNG and CHARLES H. ROGERS.

Bernardsville, N. J.—Dec. 22; 11 A.M. to 1.30 P.M. and 3 to 5 P.M. Clear; 15 in. of snow; no wind; temp. 28°. Common Pheasant, 4; Great Horned Owl, 1; Downy Wood-

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pecker, 3; (Prairie?—Ed.) Horned Lark, 12; Blue Jay, 2; Crow, 15; Starling, 2; Tree Sparrow, 9; Junco, 8; Song Sparrow, 2; Cardinal, 4; White-breasted Nuthatch, 2; Chickadee, 5; Robin, 2. (Pheasant and Cardinal reported, not personally seen.) Total, 15 species, 101 individuals.—J. DRYDEN KUSER.

Camden, N. J. (and vicinity).—Dec. 23; 10.30 A.M. to 3 P.M. Clear; ground bare; wind northwest; temp. 30°. Herring Gull, 6; Bob-white, 6; Marsh Hawk, 1; Red-tailed Hawk, 6; Red-shouldered Hawk, 1; Sparrow Hawk, 2; Barn Owl, 1; Short-eared Owl, 1; Downy Woodpecker, 2; Flicker, 1; Blue Jay, 2; Crow, 10; Starling, 50; Horned Lark, 3; Meadowlark, 6; White-throated Sparrow, 8; Tree Sparrow, 10; Field Sparrow, 1; Junco, 20; Song Sparrow, 15; Cardinal, 2; Winter Wren, 1; Tufted Titmouse, 1; Robin, 2. Total, 24 species, 158 individuals.—JULIAN K. POTTER.

Englewood Region, N. J. (Palisades Park, to Nordhoff, to Teaneck, through Englewood to Englewood Cliffs, and along foot of Palisades to Edgewater).—Dec. 22; 8 A.M. to 4.30 P.M. Clear; 8 in. of snow; wind northwest, brisk; temp. 30° to 40°. Fifteen miles on foot. Herring Gull, 300; American Merganser, 4; Black Duck, 15; Marsh Hawk, 1; Sharp-shinned Hawk, 1; Red-tailed Hawk, 1; Duck Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 10; Flicker, 1; Blue Jay, 11; Crow, 15; Starling, 90; Red-winged Blackbird, 1 female; Meadowlark, 6; Goldfinch, 3; White-throated Sparrow, 23; Tree Sparrow, 21; Junco, 15; Song Sparrow, 33; Fox Sparrow, 3; Brown Creeper, 10; White-breasted Nuthatch, 1; Tufted Titmouse, 1; Black-capped Chickadee, 3; Robin, 1; Bluebird, 2. Total, 27 species, about 574 individuals.—CLARK L. LEWIS, JR., and EDWARD G. NICHOLS.

Hackettstown, N. J.—Dec. 28; 8.10 to 11.30 A.M. Cloudy; remainder of a 16-in. drifted snow; wind south. Downy Woodpecker, 3; Blue Jay, 4; Crow, 4; Starling, 18; Purple Finch, 21 (most of these are part of a flock of about 40 which feed at my home); Tree Sparrow, 35; Junco, 10; Song Sparrow, 1; Brown Creeper, 1; White-breasted Nuthatch, 2; Chickadee, 2. Total, 11 species, about 101 individuals. Flock of (Prairie? —Ed.) Horned Larks seen Nov. 17.—MARY PIERSON ALLEN.

Moorestown, N. J.—Dec. 25; 6.45 A.M. to 5.20 P.M. Cloudy, with rain at intervals through the morning; ground bare; wind westerly, light, becoming fresh; temp. at start 40½°, at return 36°. Two parties covering different sections, and conveyed by automobiles. First party returned at 12.30 P.M.; second party traveled by auto 53 miles and walked about 8. Herring Gull, 38; American Merganser, 10; Killdeer, 2; Marsh Hawk, 2; Sharp-shinned Hawk, 1; Red-tailed Hawk, 7; Sparrow Hawk, 3; Kingfisher, 2; Hairy Woodpecker, 2; Downy Woodpecker, 9; Flicker, 5; Horned Lark, 11; Blue Jay, 20; Crow, 717; Starling, 313; Red-winged Blackbird, 2; Meadowlark, 1; Goldfinch, 10; White-throated Sparrow, 26; Tree Sparrow, 81; Field Sparrow, 2; Junco, 272; Song Sparrow, 35; Cardinal, 15; Mockingbird, 1; Carolina Wren, 2; Winter Wren, 4; Brown Creeper, 1; Tufted Titmouse, 6; Chickadee sp., 10; Golden-crowned Kinglet, 9; Robin, 4. Total, 32 species, 1,623 individuals. Total area covered was within a diameter of 14 miles.—M. ALBERT LINTON, ANNA A. MICKLE, JOHN D. CARTER, ALICE M. CARTER, WM. BACON EVANS and GEORGE H. HALLETT, JR.

Morristown, N. J.—Dec. 25; 9 A.M. to 12.30 P.M. Cloudy; about a foot of old snow; wind west, light; temp. 36°. Route, out the Lake Road to the Lake Road Bridge, thence through Speedwell Park and Collinsville to the town's disposal beds, returning along the Erie tracks and through Evergreen Cemetery—about 6 miles. Observers together. Hairy Woodpecker, 2; Downy Woodpecker, 1; Blue Jay, 48; Crow, 15; Starling, 48; Purple Finch, 20; Goldfinch, 20; Tree Sparrow, 62; Field Sparrow, 1(seen at close range, also two characteristic notes heard); Junco, 60; Song Sparrow, 6; Cardinal, 4; (3 males, 1 female); Brown Creeper, 1; White-breasted Nuthatch, 8; Tufted Titmouse, 2; Chickadee, 9; Golden-crowned Kinglet, 4; Robin, 2. Total, 18 species, 309 individuals.—EDWARD FAIRBANK and R. C. CASKEY.

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Mount Holly, N. J.—Dec. 23; 8 A.M. to 5 P.M. Clear; no wind; temp. at start 14°, on return, 30°. Ten miles on foot. Observers together. Duck sp., 8; Turkey Vulture, 7; Cooper's Hawk, 1; Red-tailed Hawk, 2; Sparrow Hawk, 1; Hairy Woodpecker, 5; Downy Woodpecker, 22; Blue Jay, 12; Crow, 5,000+; Starling, 500+; Goldfinch, 7; White-throated Sparrow, 10; Tree Sparrow, 25; Field Sparrow, 6; Junco, 500+; Song Sparrow, 8; Cardinal, 10; Northern Shrike, 1; Brown Creeper, 27 (number too high?—Ed.); White-breasted Nuthatch, 1; Tufted Titmouse, 18; Chickadee sp., 9; Golden-crowned Kinglet, 4; Hermit Thrush, 1; Robin, 3. Total, 25 species, 6,188 individuals.—MR. and MRS. NELSON D. W. PUMYEA.

New Brunswick, N. J.—Dec. 24; 9 A.M. to 1.45 P.M. (S.T.D.), 9.30 A.M. to 1 P.M. and 3.30 to 4.20 P.M. (R. E. D.) Partly cloudy; 5 in. of snow; wind southerly, moderate; temp. 36° to 43°. The observers covered different ground. Herring Gull, 8; Sharp-shinned Hawk, 2; Cooper's Hawk, 1; Goshawk, 7 [?–Ed.]; Red-tailed Hawk, 1; Belted Kingfisher, 3; Hairy Woodpecker, 4; Downy Woodpecker, 5; Blue Jay, 15; American Crow, 433; Fish Crow, 36; Starling, 300; Purple Finch, 6; Goldfinch, 1; White-throated Sparrow, 2; Tree Sparrow, 4; Junco, 28; Song Sparrow, 14; Cardinal, 7; Winter Wren, 2; Brown Creeper, 5; Tufted Titmouse, 2; Robin, 3. Total, 23 species, 889 individuals.—RALPH E. DANFORTH and STUART T. DANFORTH.

Plainfield, N. J. (to Ash Swamp and back).—Dec. 25; 7 A.M. to 3.35 P.M. Overcast, drizzling rain from 7.45 to 10 A.M.; about 8 in. of snow; little wind; temp. 38° at start, 37° at return. About 12 miles on foot. Ring-necked Pheasant, 4 (flock); Cooper's (or Sharp-shinned?) Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Barred Owl, 1; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 9; Flicker, 1; Blue Jay, 24; American Crow, 125; Starling, 65; Meadowlark, 22; Goldfinch, 5 (flock); White-throated Sparrow, 4; Tree Sparrow, 24; Junco, 24; Song Sparrow, 14; Cardinal, 7; Carolina Wren, 2 together; Brown Creeper, 1; White-breasted Nuthatch, 7; Tufted Titmouse, 8; Black-capped Chickadee, 8. Total, 25 species, 362 individuals.—W. DE W. MILLER.

Princeton, N. J. (Mercer St. to Stony Brook, and 3 miles along the brook).—Dec. 26; 10.45 A.M. to 5.P.M. Clear; crisp snow; wind northwest, light; temp. 22° at start, 24° at return. Observers most of time together. Ruffed Grouse, 1; (Ring-necked?) Pheasant, 1; Mourning Dove, 9; Red-tailed Hawk, 1; Downy Woodpecker, 5; Red-headed Woodpecker, 1; Northern Flicker, 1; Blue Jay, 8; American Crow, 200; Starling, 8; Tree Sparrow, 100; Slate-colored Junco, 150; Song Sparrow, 40; Cardinal, 18; Northern Shrike, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 1; Black-capped Chickadee, 20; Bluebird, 11 (one flock). Total, 19 species, about 579 individuals. Three Song Sparrows singing softly at noon; 14 Cardinals in 1 flock.—TERTIUS VAN DYKE and HAMILTON GIBSON.

Vineland, N. J. (Six miles northeast of Vineland).—Dec. 25; 10.30 A.M. to 4.30 P.M. Light rain, sometimes mixed with snow, all day; wind northwest, light; temp. 39°. Blue Jay, 2; Crow, 5; Starling (?), 25; Meadowlark, 3; Tree Sparrow, 50; Junco, 130; Song Sparrow, 2; Chickadee sp., 1. Total, 8 species, 218 individuals.—WM. W. FAIR.

Ardsley, Hillside and Roslyn, Pa.—Dec. 23; 12.30 to 4.30 P.M. Clear; 5 in. of snow; wind west, light; temp. 32°. About 6 miles. Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 2; Crow, about 1,000; Starling, 28; Purple Grackle, 2; Tree Sparrow, 62 (in song); Junco, 17; Song Sparrow, 6; Cardinal, 1. Total, 11 species, about 1,123 individuals.—GEORGE LEAR.

Beaver, Pa. (Beaver's Hollow, Dutch Ridge Road, Gypsy Glen).—Dec. 26; 11 A.M. to 5.15 P.M. Clear; 3 in. of snow; wind west, light; temp. 23°. Bob-white, 6(one covey); Hairy Woodpecker, 1; Downy Woodpecker, 10; Redpoll, 4; Tree Sparrow, 135; Song Sparrow, 9; Junco, 63; Cardinal, 3; Tufted Titmouse, 1; Black-capped Chickadee, 9; Golden-crowned Kinglet, 6; White-breasted Nuthatch, 6. Total, 12 species, about 249

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individuals. The Redpolls were studied for 20 minutes at 15 feet, and all distinguishing characteristics noted.—W. R. BOULTON, JR.

Buckingham (near Doylestown), Pa.—Dec. 26; 7 A.M. to 2 P.M. Clear; 5 in. of snow; wind west; temp. 24°. Walked 5 miles. Bob-white, 2; Cooper's Hawk, 1; Sparrow Hawk, 3; Saw-whet Owl, 1; Screech Owl, 1; Downy Woodpecker, 1; Blue Jay, 1; Crow, 18; Starling, 20; Canadian [Tree?–Ed.] Sparrow, 2; Junco, 9; Song Sparrow, 3; Cardinal, 1; Brown Creeper, 1; White-breasted Nuthatch, 1. Total, 15 species, about 65 individuals.—ELIZABETH COX.

Forty Fort, Luzerne County, Pa. (to Trucksville and return).—Dec. 26; 9.30 A.M. to 4.30 P.M. Clear; 4 in. of snow; wind northwest, light; temp. 15°. Eleven miles, covering river-flats, meadow, mountain, valley and swamps. Observers together. Sparrow Hawk, 1; Crow, 10; Starling, 2; American Goldfinch, 25; Tree Sparrow, 5; Chickadee, 2. Total, 6 species, about 45 individuals.—H. W. BAY, PAUL BITTENBENDER and ALVAN WAGNER.

Haverford, Pa. (to Darby Creek and back).—Dec. 24; 10.30 A.M. to 4.45 P.M. Clear at start, showery at return; 2 in. of snow, melting fast; wind southwest, moderate; temp. 37° at start, 41° at return. Eight miles on foot. Observers separate in A.M., together in P.M. Red-tailed Hawk, 1; Sparrow Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 2; Crow, 15; Starling, 4; White-throated Sparrow, 5; Tree Sparrow, 2; Junco, 44; Song Sparrow, 13; Cardinal, 1; Brown Creeper, 1; White-breasted Nuthatch, 1; Carolina Chickadee, 7; Golden-crowned Kinglet, 3. Total, 15 species, 101 individuals.—GURDON SCOVILLE and THEODORE SPENCER.

Limerick, Pa. (to Linfield, Limerick Center, Stone Hills, and back).—Dec. 24; 10 A.M. to 4 P.M. Cloudy; from 6 to 12 in. of snow; wind southwest, light; temp. 32° to 36°. Sixteen miles on foot. Sharp-shinned Hawk, 3; Cooper's Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Flicker, 12; Horned Lark, 1; Crow, numerous; Starling, 6; Meadowlark, 1; Tree Sparrow, 29; Junco, 53; Song Sparrow, 9; Northern Shrike, 1. Total, 15 species, about 125 individuals+Crows.—EDWARD K. ZIEGLER.

Lititz, Pa. (northern Lancaster Co., upper waters of the Hammer Creek).—Dec. 23; 8 A.M. to 5 P.M. Clear; temp. 2°; ground covered with snow; wind, none. Bob-white, 76 (seven coveys); Ruffed Grouse, 2; Turkey Vulture, 28; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Sparrow Hawk, 1; Screech Owl, 1; Downy Woodpecker, 12; Flicker, 3; Blue Jay, 18; Crow, about 2,000; Goldfinch, 5; Tree Sparrow, 68; Slate-colored Junco, 82; Song Sparrow, 12; Cardinal, 16; Brown Creeper, 1; White-breasted Nuthatch, 3; Tufted Titmouse, 10; Chickadee, 6. Total, 20 species, 346 individuals + Crows.—HERBERT H. BECK, ELMER E. KAUTZ and ABRAHAM BECK MILLER.

McKeesport, Pa.—Dec. 23; 7.15 A.M. to 4.30 P.M. Mostly cloudy; light snow on hillsides; no wind; temp. 20° to 36°. Fifteen miles on foot. Observers together except for four hours. Hairy Woodpecker, 2; Downy Woodpecker, 11; Flicker, 1; Crow, 3; Tree Sparrow, 80; Junco, 9; Song Sparrow, 37; Towhee (female; heard and watched at 40 ft.), 1; Cardinal, 12; White-breasted Nuthatch, 7; Red-breasted Nuthatch, 2; Tufted Titmouse, 25; Black-capped Chickadee, 14. Total, 13 species, 204 individuals.—L. F. SAVAGE and THOS. L. MCCONNELL.

Oaks, Montgomery Co., Pa. (Perkiomen Creek, from Mill Grove to Skippack—Schuylkill River).—Dec. 24; 8.15 A.M. until 5 P.M. Cloudy; preposterous attempts at rain throughout the day; 4 in. of snow; wind west; temp. 36° at start, 32° at return. Covered a rough triangle 6 miles around. American Merganser, 2; Red-tailed Hawk, 2 (adult and immature); Sparrow Hawk, 1; Belted Kingfisher, 2; Hairy Woodpecker, 1; Downy Woodpecker, 9; Flicker, 1; Crow, 300+; Starling, 25+; Meadowlark, 15+(flock); Tree Sparrow, 20+; Junco, 30+; Song Sparrow, 5+; Cardinal, 4; Brown Creeper 10; White-breasted Nuthatch, 2; Tufted Titmouse,

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10+; Golden-crowned Kinglet, 5+. Total, 18 species, about 454 individuals.—CONRAD K. ROLAND.

Reading, Pa.—Dec. 23; 8 A.M. to 4 P.M. Clear; 8 to 10 in. of snow; wind north, light; temp. 10° at start, 35° at return. Observers together. Downy Woodpecker, 10; Blue Jay, 11; Crow, 20; Starling, 20; White-throated Sparrow, 6; Tree Sparrow, 10; Slate-colored Junco, 12; Song Sparrow, 10; Cardinal, 7; White-breasted Nuthatch, 3; Black-capped Chickadee, 10. Total, 11 species, 119 individuals.—ANNA P. and MARY E. DEETER.

Reading, Pa.—Dec. 23; 7 A.M. to 4 P.M. Clear; 8 in. of snow; wind northwest, light; temp. 10° to 32°. Observers together. Sparrow Hawk, 3; Downy Woodpecker, 6; Blue Jay, 14; Crow, 25; Starling, 14; Meadowlark, 2; Goldfinch, 6; Tree Sparrow, 5; Junco, 30; Song Sparrow, 27; Cardinal, 15; Carolina Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 6; Chickadee, 10. Total, 15 species, 167 individuals.—MR. and MRS. G. HENRY MENGEL.

Springs, Pa.—Dec. 25; 8.15 A.M. to 12.30 P.M. Mostly clear; snow in patches; wind southwest to northwest, light; temp. 42° to 34°. Walked 5 miles. Ruffed Grouse, 1; Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 3; Tree Sparrow, 12; Junco, 9; White-breasted Nuthatch, 5; Tufted Titmouse, 4; Black-capped Chickadee, 6. Total, 9 species, 45 individuals.—ANSEL B. MILLER.

Telford, Pa.—Dec. 25; 8.15 A.M. to 12.30 P.M. Raining at start, but clearing at 10.15 A.M. followed by brisk north wind; temp. 34°; 8 in. of snow. Bob-white, 15 (covey); Sparrow Hawk, 2; Great Horned Owl, 1; Downy Woodpecker, 5; Flicker, 4; American Crow, 20; Starling, 6; Tree Sparrow, 17; Slate-colored Junco, 13; Song Sparrow, 11; Brown Creeper, 3; White-breasted Nuthatch, 3; Black-capped Chickadee, 1; Golden-crowned Kinglet, 15. Total, 14 species, 115 individuals. Also one unidentified Hawk.—CLAUDE A. BUTTERWICK.

West Chester, Pa.—Dec. 25; 11.30 A.M. to 4.30 P.M. Cloudy, slight rain at start, flurries of snow; ground covered with snow and ice; no wind; temp. 36° at start, 30° at return. Eleven miles on foot. Turkey Vulture, 3; Cooper's Hawk, 1; Red-tailed Hawk, 4; Screech Owl, 1; Downy Woodpecker, 13; American Crow, 115; Starling, 15; Purple Grackle, 2; Tree Sparrow, 50; Slate-colored Junco, 75; Song Sparrow, 45; Cardinal, 13; White-breasted Nuthatch, 3; Chickadee, 4. Total, 14 species, 344 individuals.—C. E. EHINGER.

York, Pa. (to Wrightsville, along Susquehanna Rive).—Dec. 27; 7 A.M. to 12.30 P.M. Clear; 4 in. of crusty snow; calm; temp. 18° at start. Six miles on foot. Observers together. American Merganser, 3; Screech Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 11; Northern Flicker, 1; Blue Jay, 5; American Crow, 53; Starling, 1; Tree Sparrow, 10; Slate-colored Junco, 21; Song Sparrow, 12; Cardinal, 15; Cedar Waxwing, 3; Carolina Wren, 5 (singing); Brown Creeper, 1; Tufted Titmouse, 1; Black-capped Chickadee, 12 (singing); Hermit Thrush, 1. Yesterday a Grackle was observed, and on Dec. 15 a male Towhee was positively identified where these observations were made. Total, 18 species, 157 individuals.—ARTHUR FARQUHAR and CHARLES WEISER.

Chevy Chase, Md. (northeast to Rock Creek and back).—Dec. 25; 7.30 A.M. to 1 P.M. Sky darkly overcast; snow in sheltered locations; wind north, light; temp. 40° at start, 35° at return; rain 10 to 12 A.M., snow in P.M. Eight or 9 miles on foot. Bob-white, 2; Turkey Vulture, 4; Red-shouldered Hawk, 2; Sparrow Hawk, 1; Screech Owl, 2; Hairy Woodpecker, 1; Downy Woodpecker, 11; Red-headed Woodpecker, 1; Sapsucker, 2; Blue Jay, 21; American Crow, 36; Fish Crow, 25; Starling 15 (first time the Starling has been noted in Chevy Chase; they first appeared Dec. 16); Purple Finch, 3; White-throated Sparrow, 6; Tree Sparrow, 2; Chipping Sparrow, 1; Junco, 107; Song Sparrow, 4; Cardinal, 22; Mockingbird, 8; Carolina Wren, 6; White-breasted Nuthatch, 8; Tufted

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Titmouse, 15; Carolina Chickadee, 4; Bluebird, 10. Total, 26 species, about 319 individuals.—S. W. MELLOTT.

Washington, D. C. (from a point 3½ miles south of Congress Heights to Woodridge, D. C.).—8:30 A.M. to 5 P.M. Fair; winds light, variable, becoming southerly in P.M.; temp. 16° to 39°. Herring Gull, 1; Bob-white, 17; Turkey Vulture, 34; Cooper's Hawk, 1; Red-tailed Hawk, 2; Red-shouldered Hawk, 6; Broad-winged Hawk, 1; Sparrow Hawk, 2; Barred Owl, 2; Kingfisher, 1; Downy Woodpecker, 9; Red-bellied Woodpecker, 1; Flicker, 5; Blue Jay, 4; Crow, 10,000; Fish Crow, 91; Starling, 14; Red-winged Blackbird, 2; Meadowlark, 6; Purple Finch, 3; Goldfinch, 51; White-throated Sparrow, 16; Tree Sparrow, 226; Junco, 327; Song Sparrow, 34; Swamp Sparrow, 1; Cardinal, 28; Migrant Shrike, 1; Mockingbird, 3; Carolina Wren, 5; Brown Creeper, 1; Tufted Titmouse, 12; Carolina Chickadee, 12; Golden-crowned Kinglet, 4; Hermit Thrush, 1; Bluebird, 14. Total, 36 species, 10,938 individuals.—I. N. GABRIELSON and E. R. KALMBACH.

Washington, D. C. (Wellington to New Alexandria, Va.; Arlington, Va. to Washington, D. C.).—Dec. 26; 10 A.M. to 4 P.M. Clear; wind northwest, light but penetrating; light snow covering ground; temp. 25° to 30°. Distance 12 miles. Hooded Merganser, 15; Mallard, 50; Black Duck, 25; Redhead, 100; Canvasback, 500; Greater Scaup, 500; Lesser Scaup, 6,000 (two sizes, as well as color reflections of heads); Goldeneye, 30; Bufflehead, 12 (all ducks through telescope, 25 diameters); Bob-white, 32 (7, 8, 16, 1); Turkey Vulture, 10; Marsh Hawk, 1; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Broad-winged Hawk, 1; Bald Eagle, 3; Sparrow Hawk, 2; Downy Woodpecker, 11; Yellow-bellied Sapsucker, 1; Flicker, 2; Blue Jay, 5; Common Crow, 300; Fish Crow, 7; Starling, 5; Rusty Blackbird, 60; Purple Finch, 2; Goldfinch, 30; White-throated Sparrow, 25; Tree Sparrow, 150; Junco, 300; Song Sparrow, 10; Cardinal, 20; Migrant Shrike, 1; Myrtle Warbler, 1; Carolina Wren, 3; Winter Wren, 2; Brown Creeper, 11; White-breasted Nuthatch, 1; Tufted Titmouse, 15; Carolina Chickadee, 40; Golden-crowned Kinglet, 150; Ruby-crowned Kinglet, 2; Bluebird, 50. Total, 45 species, 8,458 individuals. Ducks in three flocks, and actual number probably exceeded ten or twelve thousand.—MR. and MRS. LEO D. MINER, and RAYMOND W. MOORE.

Mount Vernon to Dyke, Va. (by way of Dogue Creek).—Dec. 26; 8.30 A.M. to 5.15 P.M. Clear; 2 in. of snow; wind northwest, light; temp. 23° at start, 26° at finish. Twelve miles on foot. Observers together. Red-breasted Merganser, 25; Black Duck, 6; Canvasback, 300; Lesser Scaup, 10; American Goldeneye, 2; Ruddy Duck, 75; Bob-white, 15; Turkey Vulture, 8; Marsh Hawk, 2; Red-tailed Hawk, 1; Red-shouldered Hawk, 1; Bald Eagle, 1; Downy Woodpecker, 5; Red-bellied Woodpecker, 2; Flicker, 6; Blue Jay, 16; Crow, 83; Fish Crow, 1; Red-winged Blackbird, 1; Meadowlark, 19; Goldfinch, 11; White-throated Sparrow, 13; Tree Sparrow, 29; Junco, 156; Song Sparrow, 4; Cardinal, 8; Migrant Shrike, 3; Myrtle Warbler, 4; Mockingbird, 3; Carolina Wren, 4; Winter Wren, 3; Brown Creeper, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 18; Carolina Chickadee, 7; Golden-crowned Kinglet, 13; Ruby-crowned Kinglet, 1; Hermit Thrush, 1; Bluebird, 16. Total, 39 species, about 855 individuals.—WALDO MCATEE and EDWARD A. PREBLE.

Grafton, W. Va. (McGee to Benton Ferry).—Dec. 25; 7.30 A.M. to 3.30 P.M. Cloudy and snowing until noon; 2 in. of snow at noon; wind west, light; temp. 20° at start, 35° at end. Eight miles on foot. Bob-white, 6; Screech Owl, 1; Downy Woodpecker, 5; American Crow, 2; Chipping Sparrow, 1; Slate-colored Junco, 70; Song Sparrow, 8; Cardinal, 16; Carolina Wren, 6; Tufted Titmouse, 2; Chickadee, 4. Total, 11 species, about 120 individuals.—A. J. DADISMAN.

Lewisburg, W. Va.—Dec. 26; 9 A.M. to 4 P.M. Clear; 4 in. of snow (snow clinging to the undergrowth made the observation difficult and disagreeable for the observers);

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no wind; temp. 8° at start, 26° at return. Fifteen miles on foot. Observers hunted separately. Bob-white, 17 (2 coveys); Mourning Dove, 8; Turkey Vulture, 4; Red-tailed Hawk, 1; Sparrow Hawk, 1; Great Horned Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 11; Northern Pileated Woodpecker, 2; Red-bellied Woodpecker, 14; Northern Flicker, 4; Prairie Horned Lark, 31; Blue Jay, 21; Crow, 248; Meadowlark, 2; Goldfinch, 8; Tree Sparrow, 208; Slate-colored Junco, 438; Song Sparrow, 1; Cardinal, 2; Carolina Wren, 3; White-breasted Nuthatch, 32; Tufted Titmouse, 29; Bluebird, 6. Total, 24 species, 1,096 individuals.—HARRY and CHAS. O. HANDLEY.

Boone, N. C.—Dec. 24; 8.30 A.M. to 2.30 P.M. Cloudy early, clearing in middle of forenoon and becoming warm in middle of day—one of several mild days following two weeks of unusually cold weather and an unusual snowfall for the season; ground bare on southern slopes, 2 to 5 in. of snow in wooded valleys and on northern slopes; temp. at 8.30, 30°. Bob-white, 2; Ruffed Grouse, 1; Great Horned Owl, 1 (heard just before day); Hairy Woodpecker, 2; Downy Woodpecker, 3; Blue Jay, 1; American Crow, 15; Field Sparrow, 2; Junco, 29; Song Sparrow, 4; Carolina Wren, 1; White-breasted Nuthatch, 8; Tufted Titmouse, 19; Chickadee, 7. Total, 14 species, 95 individuals.—ROY M. BROWN.

Lexington, N. C.—Dec. 26; 10.30 A.M. to 4 P.M. Clear; 1½ in. of snow; wind northeast to north, moderately strong; temp. 25° to 35°. Eight miles covered. Bob-white, 10; Turkey Vulture, 12; Northern Flicker, 1; Blue Jay, 1; Crow, 8; Purple Finch, 2; Goldfinch, 13; White-throated Sparrow, 25; Field Sparrow, 42; Slate-colored Junco, 103; Song Sparrow, 40; Cardinal, 20; Migrant Shrike, 1; Pine Warbler, 2; Carolina Wren, 9; Bewick's Wren, 2; Tufted Titmouse, 5; Carolina Chickadee, 7; Golden-crowned (?) Kinglet, 2; Hermit Thrush, 1; Bluebird, 1. Total, 21 species, 307 individuals.—THEODORE ANDREWS.

Atlanta, Ga. (Headwaters of North Utoy Creek and Procter Creek).—Dec. 22; 6.30 to 8.30 A.M. and 1 to 4.30 P.M. Clear; wind northwest, light; ground mostly bare, a little ice and snow in shaded north exposures; temp. 39° at start, 50° at end. Twelve miles afoot. Killdeer, 1; Dove, 2; Turkey Vulture, 1; Cooper's Hawk, 1; (Red-shouldered?) Hawk, 1; Sparrow Hawk, 3; Flicker, 3; Blue Jay, 5; Crow, 3; Red-winged Blackbird, 2; Meadowlark, 8; Goldfinch, 9; White-throated Sparrow, 27; Chipping Sparrow, 1; Field Sparrow, 40; Junco, 132; Song Sparrow, 8; Swamp Sparrow, 1; Fox Sparrow, 4; Towhee, 3; Cardinal, 6; Loggerhead Shrike, 1; Pine Warbler, 12; Mockingbird, 2; Carolina Wren, 5; Bewick's Wren, 1; Brown-headed Nuthatch, 2; Carolina Chickadee, 6; Golden-crowned Kinglet, 1; Ruby-crowned Kinglet, 6; Hermit Thrush, 1; Bluebird, 1. Total, 32 species, 299 individuals. One Sparrow Hawk seen from office building in heart of city, where he has hunted for three years. Song Sparrows and White-throats were in song. Dec. 8 to 18 was a cold spell of unprecedented length, with snow and ice for over a week.—W. E. HANNUM.

Camp Gordon, Atlanta, Ga.—Dec. 24; all day. Clear; ground bare, patches of snow and ice in woods; wind southwest, light; temp. 20° to 50°. Hairy Woodpecker, 1; Downy Woodpecker, 4; Blue Jay, 5; Crow, 3; Meadowlark, 6; Purple Finch, 15; White-throated Sparrow, 12; Chipping Sparrow, 10; Junco, 50; Song Sparrow, 8; Swamp Sparrow, 5; Towhee, 7; Cardinal, 2; Myrtle Warbler, 3; Pine Warbler, 20; Mockingbird, 4; Carolina Chickadee, 35; Ruby-crowned Kinglet, 2; Robin, 15; Bluebird, 25. Total, 20 species, about 230 individuals.—PRIVATE JOHN W. RUSSELL.

Nashville, Tenn. (Bellemeade, Glendale Hills and 40-acre reservoir).—Dec. 23; 8 A.M. to 1 P.M. Clear; little snow; no wind; temp. 25° to 40°. Four miles on foot. Mallard, 8; Killdeer, 3; Bob-white, 6; Black Vulture, 24 (together); Turkey Vulture, 2; Red-tailed Hawk, 3; Sparrow Hawk, 2; Screech Owl, 1; Great Horned Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 7; Red-bellied Woodpecker, 5; Pileated Woodpecker, 1; Yellow-bellied Sapsucker, 6; Flicker, 25; Prairie Horned Lark, 75 (2 flocks);

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Crow, 12; Meadowlark, 50; Bronzed Grackle, 1; Purple Finch, 4; Goldfinch, 3; White-crowned Sparrow, 4; White-throated Sparrow, 60; Field Sparrow, 14; Song Sparrow, 9; Fox Sparrow, 2; Junco, 60; Towhee, 8; Cardinal, 15; Myrtle Warbler, 3; Mockingbird, 12; Carolina Wren, 4; Bewick's Wren, 2; Winter Wren, 1; White-breasted Nuthatch, 2; Tufted Titmouse, 4; Carolina Chickadee, 8; Hermit Thrush, 2; Bluebird, 8. Total, 39 species, about 460 individuals.—A. F. GANIER

Bardstown, Ky.—Dec. 22; 9.30 to 11 A.M. and 2 to 4 P.M. Cloudy; wind southeast, at times rather strong; temp. 39° to 48°. About 4½ miles. Black Vulture, 2; Cooper's Hawk, 1; Screech Owl, 1; Hairy Woodpecker, 4; Downy Woodpecker, 1; Red-bellied Woodpecker, 2; Flicker, 21; Prairie Horned Lark, 17; Blue Jay, 11; Crow, 34; White-throated Sparrow, 2; Tree Sparrow, 1; Field Sparrow, 1; Slate-colored Junco, 61; Song Sparrow, 7; Towhee, 1; Cardinal, 8; Cedar Waxwing 30; Myrtle Warbler, 16; Tufted Titmouse, 21; Carolina Chickadee, 23; Robin, 125; Bluebird, 11. Total, 23 species, about 401 individuals.—BEN. J. BLINCOE.

Albion, Ill. (to point 7 miles west and return.)—Dec. 25; 9.15 A.M. to 5 P.M. Cloudy; 4 to 5 in. of snow; wind north, light, increasing in afternoon; temp. about 30°. (Cooper's?) Hawk, 1; Sparrow Hawk, 1; Bob-white, 3 together; Downy Woodpecker, 15; Red-bellied Woodpecker, 8; Flicker, 1; Blue Jay, 5; Crow, 25; Junco, 150 (or more); Song Sparrow, 1; Brown Creeper, 1; Tufted Titmouse, 5; Carolina Chickadee, 15. Total, 13 species, 231 individuals.—JOHN H. GOOCH.

Chicago, Ill. (Jackson Park—Riverside to Willow Springs along the DesPlaines River).—Dec. 23; 7.30 A.M. to 4.30 P.M. Cloudy with slight rain; temp. 35° to 45°. Horned Grebe, 1; Herring Gull, 27; Ring-billed Gull, 10; Cooper's Hawk, 1; Hairy Woodpecker, 6; Downy Woodpecker, 2; Blue Jay, 15; Crow, 45; Lapland Longspur, 10; Tree Sparrow, 75; Song Sparrow, 20; Junco, 4; Cardinal, 12; Carolina Wren, 2 (in full song); Brown Creeper, 4; White-breasted Nuthatch, 1; Chickadee, 3; Robin, 2. Total, 18 species, about 250 individuals.—JAMES D. WATSON.

Port Byron, Ill. (3 to 5 miles southeast).—Dec. 23; 8.15 A.M. to 3.20 P.M. Cloudy; ground bare, ice in the creeks; wind south, moderate; temp. 40° at start, 48° at return. Bob-white, 6 (covey); Rough-legged Hawk, 2; Screech Owl, 1 (heard at 6 P.M.); Great Horned Owl, 2; Hairy Woodpecker, 3; Downy Woodpecker, 12; Red-headed Woodpecker, 20; Red-bellied Woodpecker, 8; Northern Flicker, 2; Blue Jay, 25; Crow, 10; Tree Sparrow, 50; Slate-colored Junco, 100; Cardinal, 2; Brown Creeper, 1; White-breasted Nuthatch, 16; Tufted Titmouse, 7; Chickadee, 30. Total, 18 species, about 297 individuals.—J. J. SCHAFER.

Rantoul, Ill. (2 miles through woods).—Dec. 25; 12 M. to 2 P.M. Slightly cloudy; wind northeast, strong; temp. 20°. Bob-white, 12; Prairie Hen, 14; Cooper's Hawk, 1; Red-tailed Hawk, 1; Rough-legged Hawk, 3; Screech Owl, 2; Hairy Woodpecker, 3; Downy Woodpecker, 8; Arctic Three-toed Woodpecker, 1; Flicker, 1; Horned Lark, 50; Blue Jay, 10; Crow, 200; Meadowlark, 3; Goldfinch, 12; Longspur, 150; Tree Sparrow, 12; Junco, 25; Song Sparrow, 3; Cardinal, 3; White-breasted Nuthatch, 4; Red-breasted Nuthatch, 12; Tufted Titmouse, 18; Black-capped Chickadee, 7; Bluebird, 2. Total, 25 species, 560 individuals.—FRED C. CARLSON, SIDNEY E. and ED. L. EKBLAW.

Fort Wayne, Ind.—Dec. 26; 8.45 A.M. to 12 M. Fair; wind east, light; temp. 14°; ground bare. About 7 miles on foot. Duck sp., 2; Sparrow Hawk, 1; Barred Owl, 2; Downy Woodpecker, 5; Flicker, 1; Blue Jay, 8; American Crow, 5; Tree Sparrow, 12; Slate-colored Junco, 24; Song Sparrow, 5; Cardinal, 13; White-breasted Nuthatch, 3; Tufted Titmouse, 1; Black-capped Chickadee, 5. Total, 14 species, about 94 individuals. —P. WILLIAM SIHLER.

Fort Wayne, Ind.—Dec. 23; 7.45 A.M. to 1 P.M. Cloudy; ground bare; no wind; temp. 33°. Eight miles on foot. Observers together. Hairy Woodpecker, 4; Downy Woodpecker, 13; Flicker, 2; Prairie Horned Lark, 4; Blue Jay, 17; American Crow, 25;

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American Goldfinch, 30; Tree Sparrow, 71; Slate-colored Junco, 35; Song Sparrow, 4; Towhee, 2; Cardinal, 7; Carolina Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 9; Black-capped Chickadee, 5. Total, 16 species, 230 individuals.—CHAS. A. STOCKBRIDGE, A. A. RINGWALT and HENRY W. LEPPER.

Lafayette, Ind. (Tecumseh Trail to Wabash Valley Sanitarium and back through Happy Hollow).—Dec. 25; 10 A.M. to 2.30 P.M. Partly cloudy; ground bare; wind north, raw and cold; temp. thawing slightly in sun in sheltered spots. Seven miles on foot. Hairy Woodpecker, 4; Downy Woodpecker, 2; Blue Jay, 1; Crow, 7; Goldfinch, 14; Tree Sparrow, 50; Junco, 25; Cardinal, 6; Brown Creeper, 2; Tufted Titmouse, 22. Total, 10 species, 133 individuals.—M. L. FISHER.

Roachdale, Ind.—Dec. 24; 8 A.M. to 12.30 P.M. Cloudy, ground bare; wind southwest, moderate; temp. 40° to 46°. Eight miles on foot. Barred Owl, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 3; Flicker, 4; Blue Jay, 6; American Crow, 240; Tree Sparrow, 7; Slate-colored Junco, 40; Song Sparrow, 10; Cardinal, 5; Carolina Wren, 2; Brown Creeper, 2; Tufted Titmouse, 5; Black-capped Chickadee, 11. Total, 14 species, about 340 individuals. Also one large, unidentified Hawk.—WARD J. RICE.

Cadiz, Ohio.—Dec. 23; 9.15 A.M. to 1.20 P.M. Cloudy; ground bare to 2 in. of snow in the woods and on northern slopes, and remains of great drifts in places; wind southeast, light; temp. 27° to 36°. Walked 7 miles. Bob-white, 15; Sparrow Hawk, 1; Hairy Woodpecker, 4; Downy Woodpecker, 7; Red-bellied Woodpecker, 4; Flicker, 9; Crow, 5; Goldfinch, 1; Tree Sparrow, 2; Junco, 15; Song Sparrow, 9; Cardinal, 8; Carolina Wren, 2 (sang); White-breasted Nuthatch, 8; Tufted Titmouse, 16 (sang); Chickadee, 5; Bluebird, 1. Total, 17 species, 112 individuals.—HARRY B. MCCONNELL, JOHN WORLEY and RAYMOND TIMMONS.

Canton, Ohio.—Dec. 23; 7 A.M. to 3.45 P.M. Cloudy; ground with numerous snow-patches; wind southeast, light; temp. 26° to 38°. Ground covered, 10 miles. Marsh Hawk 1; Sparrow Hawk, 1; Hairy Woodpecker, 1; Downy Woodpecker, 6; Tree Sparrow, 250; Song Sparrow, 12; Cardinal, 4; White-breasted Nuthatch, 4; Tufted Titmouse, 6; Black-capped Chickadee, 2. Total, 10 species, 287 individuals.—EDWARD D. KIMES.

Canton, Ohio.—Dec. 26; 10 A.M. to 4 P.M. Clear; wind north, light; ground bare; with patches of snow; temp. 17°. Five miles on foot. Observers together. Downy Woodpecker, 7; Blue Jay, 5; Tree Sparrow, 40; Junco, 3; Song Sparrow, 3; Cardinal, 5; Brown Creeper, 5; White-breasted Nuthatch, 5; Tufted Titmouse, 7; Chickadee, 2. Total, 10 species, 82 individuals.—MAY S. DANNER and MARY KING.

Crestline, Ohio.—Dec. 28; 9.30 A.M. to 3 P.M. Light clouds, flurries of snow; ground almost bare; temp. 5° at start, 10° at return; wind north, very sharp. Walked 9 miles. Nearly all the birds found on south side of the woodlands. Hairy Woodpecker, 6; Downy Woodpecker, 7; Red-headed Woodpecker, 3; Red-bellied Woodpecker, 3; Flicker, 8; Blue Jay, 1; Crow, 3; Tree Sparrow, 52; Slate-colored Junco, 35; Song Sparrow, 2; Cardinal, 2; White-breasted Nuthatch, 6; Tufted Titmouse, 4; Black-capped Chickadee, 1. Total, 14 species, 133 individuals.—SHERIDAN F. WOOD.

Delaware, Ohio.—Dec. 25; 10 A.M. to 4 P.M. Cloudy; ground lightly snow-covered; temp. 22°. Great Horned Owl, 1; Hairy Woodpecker, 2; Downy Woodpecker, 2; Red-headed Woodpecker, 2; Red-bellied Woodpecker, 1; Blue Jay, 2; Crow, 3; Junco, 4; Song Sparrow, 2; Towhee, 2; Cardinal, 6; Titmouse, 1; Golden-crowned Kinglet, 2. Total, 13 species, 30 individuals. Blue Jays and Cardinals seem very scarce this winter. —HARRY H. HIPPLE.

Hillsboro, Ohio.—Dec. 22; 9.30 A.M. to 12 M. Cloudy; 8 in. of snow, drifted; wind northeast, slight; temp. 25°. Mourning Dove, 2; Sharp-shinned Hawk, 2; Red-shouldered Hawk, 1; Kingfisher, 1; Hairy Woodpecker, 3; Downy Woodpecker, 3; Red-bellied Woodpecker, 5; Flicker, 7; Yellow-bellied Sapsucker, 1; Blue Jay, 10; Crow, 8+;

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Meadowlark, 1; Tree Sparrow, 20; White-throated Sparrow, 5; Slate-colored Junco, 125; Song Sparrow, 10; Cardinal, 15; Winter Wren, 2; Carolina Wren, 1; White-breasted Nuthatch, 8; Tufted Titmouse, 7; Black-capped Chickadee, 12; Robin, 1. Total, 23 species, 248 individuals.—LETHA E. ROADS.

Huron, Ohio.—Dec. 23; 7 A.M. to 4 P.M. Cloudy with snow and rain; wind south, fresh; temp. 33°. Observers together. Herring Gull, 10; Merganser, 5; Bald Eagle, 1; Downy Woodpecker, 5; Northern Flicker, 3; Blue Jay, 4; Bronzed Grackle, 2; Tree Sparrow, 37; Slate-colored Junco, 3; Song Sparrow, 2; Cardinal, 8; White-breasted Nuthatch, 2; Tufted Titmouse, 5; Chickadee, 3; Golden-crowned Kinglet, 2. Total, 15 species, 92 individuals.—H. G. MORSE and D. C. REED.

Laceyville, Ohio. (9 miles west of Cadiz).—Dec. 23; 10 A.M. to 1 P.M. Cloudy, with rain in the evening; ground partly covered with snowdrifts; wind east and southeast; temp. 22° in morning, 40° at noon. Red-tailed Hawk, 1; Great Horned Owl, 1; Screech Owl, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 2; Crow, 3; Tree Sparrow, 25; Junco, 10; Song Sparrow, 3; Cardinal, 3; Cedar Waxwing, 1; Carolina Wren, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 10; Chickadee, 5. Total, 15 species, 80 individuals. I found the winter residents very scarce compared with other winter censuses. —E. E. SMITH.

Oberlin, Ohio (radius of 6 miles south and west of town).—Dec. 27; 9 A.M. to 5 P.M. Cloudy; ground barely covered with snow; wind northeast, sharp, snappy; temp. 24° at start, 32° at return. About 15 miles on foot. Herring Gull, 3; Mallard, 1 female; Bob-white, 3; Marsh Hawk, 1; Sparrow Hawk, 3; Screech Owl, 4; Hairy Woodpecker, 2; Downy Woodpecker, 8; Red-headed Woodpecker, 2; Flicker, 6; Blue Jay, 8; Goldfinch, 15+; Tree Sparrow, 75+; Slate-colored Junco, 13; Cardinal, 8; Winter Wren, 1; Brown Creeper, 1; White-breasted Nuthatch, 5; Red-breasted Nuthatch, 1; Tufted Titmouse, 2; Chickadee, 3; Robin, 1. Total, 22 species, 165+ individuals.—HELEN M. RICE.

Wilmington, Ohio.—Dec. 23; 9 A.M. to 3.30 P.M. Walked about 8 miles. Ground partly covered with snow; temp. 32° to 40°; wind southeast to west; cloudy. Black Vulture, 18; Red-tailed Hawk, 1; Sparrow Hawk, 3; Great Horned Owl, 1; Owl (unidentified), 1; Hairy Woodpecker, 1; Downy Woodpecker, 11; Red-headed Woodpecker, 33; Red-bellied Woodpecker, 9; Flicker, 13; Blue Jay, 12; Crow, 28; Goldfinch, 59; Tree Sparrow, 30; Junco, 84; Song Sparrow, 19; Fox Sparrow, 1; Towhee, 26; Cardinal, 31; Nuthatch, 5; Titmouse, 25; Chickadee, 9; Golden-crowned Kinglet, 6. Total, 22 species, 439 individuals. The Black Vulture is becoming common in Clinton and Warren Counties. This is the first time we have seen the Fox Sparrow wintering in this locality. Out of the 26 Towhees, 3 were females, the first time we have known the females to winter here. This was immediately following two weeks of severe winter, temperature as low as 20° below zero.—GEORGE D. HAWORTH and H. N. HENDERSON.

Youngstown, Ohio.—Dec. 25; 8 A.M. to 5 P.M. Cloudy; ground slightly snow-covered; wind northwest; temp. 22°. Walked about 15 miles; by automobile 20 miles. Observers were separated some of the time. Ruffed Grouse, 3; Red-tailed Hawk, 1; Sparrow Hawk, 1; Barred Owl, 1; Screech Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 16; Red-headed Woodpecker, 12; Red-bellied Woodpecker, 3; Blue Jay, 41; Goldfinch, 2; Tree Sparrow, 67; Slate-colored Junco, 51; Song Sparrow, 14; Towhee, 5; Cardinal, 29; Brown Creeper, 5; White-breasted Nuthatch, 30; Tufted Titmouse, 22; Chickadee, 139; Golden-crowned Kinglet, 7. Among additional species seen the previous week were, Hooded Merganser, Pileated Woodpecker, Pine Siskin and Carolina Wren. Total, 21 species, 453 individuals.—GEORGE L. FORDYCE, C. A. LEEDY, WILLIS H. WARNER and VOLNEY ROGERS.

Detriot, Mich. (Palmer Park and Belle Isle).—Dec. 24; 8 A.M. to 12 M. and 2 to 4 P.M. Cloudy, with misty rain; ground bare; no wind; temp. 42° to 44°. Herring Gull, 29;

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Merganser, 14; Scaup, 20; American Goldeneye, 53; Barrow's Goldeneye, 10; Redhead, 6; Hairy Woodpecker, 2; Downy Woodpecker, 4; Slate-colored Junco, 20; Blue Jay, 4; Crow, 3; Brown Creeper, 2; White-breasted Nuthatch, 8; Black-capped Chickadee, 2. Total, 14 species, 177 individuals.—ETTA S. WILSON.

Lauderdale Lakes, near Elkhorn, Wis.—Dec. 26; 10 A.M. to 12.30 P.M. and 2.30 to 3.15 P.M. Partly cloudy, ground bare; wind east, shifting to southeast, brisk; temp. 21° at start, 27° at finish. Five miles on foot. Observers together. Mallard, 11; Hairy Woodpecker, 1; Downy Woodpecker, 3; Blue Jay, 3; Crow, 7; Tree Sparrow, 12; White-breasted Nuthatch, 2. Total, 7 species, 39 individuals. This winter is remarkable for the absence of the Black-capped Chickadee, only one having been seen since Oct. 25; very plentiful here in previous winters.—LULA DUNBAR, MILDRED ELIZABETH LEAN and ROBERT DUNBAR, JR.

Racine, Wis. (Lake front, 3 miles up river and back).—Dec. 26; 9 A.M. to 2.30 P.M. Cloudy, sun shining dimly at times; no snow; wind south, light; temp. 20°. Ten miles on foot. Observers in two groups. Herring Gull, 105; American Scoter, 4; Downy Woodpecker, 19; Blue Jay, 25; Crow, 48; Red-breasted Nuthatch, 1. Total, 6 species, 202 individuals.—MRS. WM. VAN ARSDALE, MISS BESSIE HORLICK, MISS L. DU FOUR and THEO. G. STELZER.

Waukesha, Wis.—Dec. 26; 8.30 A.M. to 4.30 P.M. Morning cloudy, afternoon clear; ground bare; wind east, light; temp. 20° at start, 30° at return. Ten miles on foot. Hairy Woodpecker, 1; Blue Jay, 5; American Crow, 5. Total, 3 species, 11 individuals. Remarkably few birds in this vicinity this winter.—MAY MORGAN.

Mankato, Minn.—Dec. 25. Cloudy, clearing before noon; snow in patches; temp. —4° to +10°. Screech Owl, 1; Great Horned Owl, 1; Hairy Woodpecker, 5; Downy Woodpecker, 10; Pileated Woodpecker, 1; Blue Jay, 4; Crow, 1; Tree Sparrow, 50; Slate-colored Junco, 35; White-breasted Nuthatch, 4; Black-capped Chickadee, 7. Total, 11 species, about 120 individuals.—WALKER FERGUSON.

St. Peter, Minn.—Dec. 28; 10 A.M. to 4 P.M. Clear; ground covered by light snow; wind northwest, medium; temp. 6° below zero. Five mile tramp; woods, fields and river-bottom. Observers together. Wilson's Snipe, 1; Hairy Woodpecker, 5; Downy Woodpecker, 7; Blue Jay, 6; Tree Sparrow, 5; Brown Creeper, 4; White-breasted Nuthatch, 7; Red-breasted Nuthatch, 2; Black-capped Chickadee, 26. Total, 9 species, 63 individuals. Flushed the Snipe twice; was able to approach within 15 feet of it.—H. J. LADUE and R. H. FERMAN.

Bettendorf, Iowa.—Dec. 22; 8.30 A.M. to 12.30 P.M., Bettendorf and vicinity; 2 to 4.30 P.M., Suburban Island. Partly cloudy; ground bare; wind south, light; temp. 34° at start, 40° at return. Nine miles on foot. Canada Goose, 3; Screech Owl, 1; Hairy Woodpecker, 23; Downy Woodpecker, 13; Red-headed Woodpecker, 23; Flicker, 2; Blue Jay, 21; American Crow, 6; Red-winged Blackbird, 350; Tree Sparrow, 69; Slate-colored Junco, 38; Song Sparrow, 1; Cardinal, 2; Brown Creeper, 3; White-breasted Nuthatch, 18; Tufted Titmouse, 21; Black-capped Chickadee, 30. Total, 17 species, 609 individuals.—HUGO H. SCHRODER.

Davenport, Iowa.—Dec. 23; 1 to 5 P.M. Cloudy; ground bare; wind south, light; temp. 40° at start, 48° at return. Five miles on foot. Observers together. Hairy Woodpecker, 1; Downy Woodpecker, 5; Flicker, 2; Blue Jay, 16; Red-winged Blackbird, 1,500; Tree Sparrow, 2; Slate-colored Junco, 100+; Towhee, 1; Cardinal, 4; White-breasted Nuthatch, 4; Tufted Titmouse, 2; Black-capped Chickadee, 25; American Robin, 2. Total, 13 species, 1,664 individuals. An unusual number of Red-winged Blackbirds this autumn and winter—flocks of thousands on several dates.—J. H. POARMANN and HUGO H. SCHRODER.

Sioux City, Iowa (Stone Park and vicinity).—Dec. 23; 8.30 A.M. to 5 P.M. Clear; wind southeast, light; temp. 31° to 40°. Observers together. Five to 7 miles afoot.

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Red-tailed Hawk, 1; Western Horned Owl, 1; Downy Woodpecker, 12; Flicker, 4; Blue Jay, 1; Crow, 14; Goldfinch, 49; Pine Siskin, 1; Tree Sparrow, 82; Junco, 15; Cardinal, 6; Brown Creeper, 1; White-breasted Nuthatch, 9; Chickadee, 31; Bluebird, 1. Total, 15 species, 231 individuals.—DR. T. C. STEPHENS and A. F. ALLEN.

Jefferson Barracks, Mo. (woods and river nearby).—Dec. 25; 10 A.M. to 1 P.M. Cloudy; ground bare and frozen; wind northeast; temp. 15°. Cooper's Hawk, 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 2; Flicker, 2; Prairie Horned Lark, 2; Blue Jay, 6; Crow, 20; Redpoll, 8; Goldfinch, 40; Pine Siskin, 26; Tree Sparrow, 10; Junco, 50; Cardinal, 4; Brown Creeper, 1; White-breasted Nuthatch, 1; Red-breasted Nuthatch, 2; Tufted Titmouse, 10; Chickadee, 6; Bluebird, 5. Total, 19 species, 200 individuals.—PRIVATE GEORGE E. EKBLAW.

Marionville, Mo.—Dec. 26; entire day. Wind cold, strong. Red-tailed Hawk, 2; Sparrow Hawk, 1; Hairy Woodpecker 1; Downy Woodpecker, 4; Red-bellied Woodpecker, 1; Flicker, 1; Prairie Horned Lark, 20; Blue Jay, 6; Crow, 100; Meadowlark, 2; Goldfinch, 1; White-throated Sparrow, 3; Field Sparrow, 2; Slate-colored Junco, 20; Cardinal, 4; Mockingbird, 1; Winter Wren, 1; White-breasted Nuthatch, 1; Tufted Titmouse, 5; Chickadee, 8; Robin, 15; Bluebird, 6. Total, 22 species, about 225 individuals.—JOHNSON NEFF.

Marshall, Mo.—Dec. 22; 9 A.M. to 3 P.M. Cloudy; ground bare; wind light, south; temp. at start 36°. Distance, 8 miles. Bob-white, 5; Marsh Hawk, 1; Cooper's Hawk, 1; Red-tailed Hawk, 2; Red-shouldered Hawk, 3; Hairy Woodpecker, 5; Northern Downy Woodpecker, 12; Red-bellied Woodpecker, 8; Northern Flicker, 7; Blue Jay, 15; American Crow, 22; American Goldfinch, 63; Tree Sparrow, 35; Slate-colored Junco, 63; Cardinal, 32; Carolina Wren, 4; Tufted Titmouse, 14; Black-capped Chickadee, 12. Total, 18 species, 314 individuals. Note the shortage of seed-eating birds, the absence of occasional visitants, as well as of some of the regulars.—J. A. LAUGHLIN.

Marysville, Mo. (west, north, and east of town and back).—Dec. 26. Cloudy; wind southeast, strong; temp. 27° at start, 28 °at finish. Fourteen miles on foot; three types of country in vicinity. Red-tailed Hawk, 1; Downy Woodpecker, 2; Northern Flicker, 1; Blue Jay, 1; American Crow, 2; Tree Sparrow, 56; Slate-colored Junco, 130; Cardinal, 2; Brown Creeper, 1; Black-capped Chickadee, 17. Total, 10 species, about 215 individuals.—VIRGINIA C. ROBINSON.

Salem, Mo.—Dec. 25; 10 to 11.50 A.M. and 2 to 4.20 P.M. Cloudy; ground and trees covered with ice; wind, chill northeast, brisk; temp. 25° in morning, 30° in evening. Twelve miles on foot. Observers together. Duck sp., 1; Wilson's Snipe, 1; Turkey Vulture, 1; Sharp-shinned Hawk, 1; Sparrow Hawk, 2; Hairy Woodpecker, 3; Downy Woodpecker, 8; Red-bellied Woodpecker, 3; Red-headed Woodpecker, 11; Flicker, 5; Prairie Horned Lark, 17; Blue Jay, 38; Crow, 108; Red-winged Blackbird, 2; Meadowlark, 16; Rusty Blackbird, 30; Bronzed Grackle, 1; Purple Finch, 2; American Goldfinch, 25; White-throated Sparrow, 5; Tree Sparrow, 167; Field Sparrow, 10; Slate-colored Junco, 348; Song Sparrow, 4; Towhee, 3; Cardinal, 13; Loggerhead Shrike, 1; Myrtle Warbler, 1; Carolina Wren, 3; Winter Wren, 1; Bewick's Wren, 2; White-breasted Nuthatch, 4; Tufted Titmouse, 25; Carolina Chickadee, 12; Golden-crowned Kinglet, 1; Robin, 7; Bluebird, 6; Total, 37 species, 888 individuals.—PAUL DENT and DENT JOKERST.

Dewitt, Ark.—Dec. 20; 8 A.M. to 12 M. Clear; ground bare; wind light, south; temp. 40° to 60°. Five miles through heavy bottom-woods and cultivated fields. Mallard, 300; Mourning Dove, 14; Turkey Vulture, 9; Sparrow Hawk, 1; Hairy Woodpecker, 3; Downy Woodpecker, 6; Yellow-bellied Sapsucker, 2; Pileated Woodpecker, 4; Red-bellied Woodpecker, 15; Flicker, 5; Blue Jay, 15; Red-winged Blackbird, 60; Meadowlark, 14; Rusty Blackbird, 450; Bronzed Grackle, 76; Goldfinch, 29; White-throated

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Sparrow, 96; Field Sparrow, 16; Junco, 150; Song Sparrow, 31; Swamp Sparrow, 7; Fox Sparrow, 2; Towhee, 1; Cardinal, 6; Cedar Waxwing, 50; Migrant Shrike, 1; Myrtle Warbler, 19; Pipit, 4; Mockingbird, 7; Brown Thrasher, 1· Carolina Wren, 9; Bewick's Wren, 1; Brown Creeper, 5; White-breasted Nuthatch, 3; Tufted Titmouse, 17; Carolina Chickadee, 7; Golden-crowned Kinglet, 7; Hermit Thrush, 2; Robin, 13; Bluebird, 6. Total, 40 species, 1,463 individuals.—ALEXANDER WETMORE.

Aransas Pass, San Patricio Co., Texas.—Dec. 24; daylight until dark. Fair and calm; temp. 72°. Country visited: Mesquite prairies, fresh-water ponds, live-oak groves, bays and beaches. Loon, 1; Herring Gull, 25; Ring-billed Gull, 50; Laughing Gull, 25; Caspian Tern, 20; Royal Tern, 2; Gull-billed Tern, 50; Forster's Tern, 1; Florida Cormorant, 20; White Pelican, 5; Brown Pelican, 100; Gadwall, 2; (Green-winged?) Teal, 2; Shoveler, 2; Pintail, 1,000; Redhead, 75; Canvasback, 2; Lesser Scaup, 300; Ring-necked Duck, 1 (collected); (Hutchin's?) Goose, 6; Lesser Snow Goose, 35; (Ward's?) Heron, 10; Egret, 1; Little Blue Heron, 100; Yellow-crowned Night Heron, 3; Least Sandpiper, 6; Red-backed Sandpiper, 15; Semipalmated and Western Sandpiper, 100; Sanderling, 2; Greater Yellowlegs, 4; Lesser Yellowlegs, 1; Western Willet, 1,000+; Long-billed Curlew, 4; Hudsonian Curlew, 1; Black-bellied Plover, 25; Killdeer, 4; Semipalmated Plover, 2; Piping Plover, 1; Snowy Plover, 2; Turnstone, 8; Mourning Dove, 1; Mexican Ground Dove, 1; Inca Dove, 6; Turkey Vulture. 25; Black Vulture, 8; Marsh Hawk, 10; Sharp-shinned Hawk, 1; Sparrow Hawk, 3; Audubon's Caracara, 4; Red-bellied Woodpecker, 1; Flicker, 5; Phœbe, 4; Texas Horned Lark, 8; Red-eyed Cowbird, 3; Rio Grande Meadowlark, 75; Great-tailed Grackle, 250; Goldfinch sp., 1; Savannah Sparrow, 1; Field Sparrow, 2; Gray-tailed Cardinal, 10; Tree Swallow, 6; Loggerhead Shrike, 3; Myrtle Warbler, 25; Pipit sp., 15; Mockingbird, 10; Black-crested Titmouse, 2; Ruby-crowned Kinglet, 4; Hermit Thrush subsp., 1. Total, 68 species, 3,497 individuals. Seen also on preceding and following days: Horned Grebe, 4; Pied-billed Grebe, 1; Red-breasted Merganser, 50; Hooded Merganser, 2; Mallard, 1; Baldpate, 4; White-fronted Goose, 11; Wood Ibis, 3; Louisiana Heron, 4; Black-crowned Night Heron, 2; Long-billed Dowitcher, 1; Horned Owl, 1; making a grand total of 80 species. Census gives no idea of the extreme abundance of shore-birds, which have been protected in Texas for three years. Shoveler and Forster's Tern much commoner than census would indicate.—LIEUT. CARROLL R. DUNHAM, U. S. R., and LIEUT. LUDLOW GRISCOM, U. S. R.

Eagle Lake, Texas.—Dec. 27; 8.30 A.M. to 12 M. and 1 to 4 P.M. Clear; wind light, south; temp. 55° to 65°. Walked 9 miles through marsh, cultivated lands, live oaks and scrub. Green-winged Teal, 15; Shoveler, 12; Coot, 8; Wilson's Snipe, 6; Least Sandpiper, 2; Killdeer, 8; Quail, 12; Mourning Dove, 1; Turkey Vulture, 15; Black Vulture, 30; Red-tailed Hawk, 4; Red-shouldered Hawk, 3; Sparrow Hawk, 2; Downy Woodpecker, 1; Yellow-bellied Sapsucker, 3; Red-bellied Woodpecker, 8; Yellow-shafted Flicker, 10; Phœbe, 5; Blue Jay, 10; Crow, 2; Cowbird, 15; Red-winged Blackbird, 150; Meadowlark, 12; Brewer's Blackbird, 300; Great-tailed Grackle, 75; Goldfinch, 30; Vesper Sparrow, 4; Harris's Sparrow, 1; White-crowned Sparrow, 100; White-throated Sparrow, 5; Song Sparrow, 5; Swamp Sparrow, 2; Fox Sparrow, 2; Arctic Towhee, 5; Green-tailed Towhee, 1; Cardinal, 40; Cedar Waxwing, 40; Shrike, 2; Myrtle Warbler, 8; Yellow-throat, 7; Pipit, 75; Mockingbird, 50; Brown Thrasher, 30; Carolina Wren, 6; House Wren, 1; Long-billed Marsh Wren, 2; Tufted Titmouse, 3; Plumbeous Chickadee, 4; Ruby-crowned Kinglet, 3; Hermit Thrush, 3; Robin, 7. Total, 51 species, 1,045 individuals.—ALEXANDER WETMORE.

Fremont, Neb.—Dec. 26; 8 A.M. to 12 M. Wind south, raw; temp. 18°; no snow. Hairy Woodpecker, 4; Downy Woodpecker, 3; Flicker, 3; Prairie Horned Lark, 10; Blue Jay, 3; Crow, 4; Red Crossbill, 1; Western Meadowlark, 1; Goldfinch, 2; Tree Sparrow, 15; Slate-colored Junco, 6; Brown Creeper, 2; Cedar Waxwing, 1; Chick-

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adee, 12; Golden-crowned Kinglet, 4; Robin, 1. Total, 16 species, 72 individuals.—LILY RUEGG BUTTON.

Omaha, Neb.—Dec. 27. Clear; no wind; ground bare; temp. 30°. Trips in four directions through parks partly wooded and cemeteries right about the city. Mallard, (male), 1; Wilson's Snipe, 2; (Broad-winged?) Hawk, 1; Long-eared Owl, 1; Barred Owl, 2; Screech Owl, 1; Hairy Woodpecker, 5; Downy Woodpecker, 16; Red-headed Woodpecker, 1; Flicker, 17; Blue Jay, 11; Crow, 1; Goldfinch, 1; Harris's Sparrow, 6; Tree Sparrow, 7; Slate-colored Junco, 261; Song Sparrow, 1; Cardinal, 9; Brown Creeper, 3; White-breasted Nuthatch, 5; Chickadee, 47; Golden-crowned Kinglet, 1. Total, 22 species, 462 individuals.—MILES GREENLEAF, L. O. HORSKY, W. W. MARSH and S. R. TOWNE.

Fargo, N. D.—Dec. 23; 11.30 A.M. to 4 P.M. Mostly cloudy; wind south, very light, shifting to north and starting to storm; very little snow on fields, 3 to 4 in. in woods; temp. 30°. Fields and woods along river; 12 to 14 miles on foot. Hairy Woodpecker, 2; Horned Lark? (flying at a distance), 2; Brown Creeper, 2; White-breasted Nuthatch, 7; Chickadee, 1. Total, 5 species, 15 individuals.—O. A. STEVENS.

Bozeman, Mont.—Dec. 25; 9.30 A.M. to 12 M. and 2.30 P.M. to 4 P.M. Fair to cloudy; a trace of snow; calm; temp. 19° at start, 34° at return. Seven miles on foot. Belted Kingfisher, 1; Red-shafted Flicker, 2; Magpie, 10; Clarke's Nutcracker, 1; Redpoll, 40; Western Tree Sparrow, 16; Mountain Song Sparrow, 1; Bohemian Waxwing, 75; Long-tailed Chickadee, 17. Total, 9 species, 163 individuals.—NELSON LUNDWALL.

Missoula, Mont.—Dec. 25; 10 A.M. to 1.30 P.M. Cloudy; no wind; freezing; ground bare. Six-mile circuit. Belted Kingfisher, 2; Batchelder's Downy Woodpecker, 1; Red-shafted Flicker, 5; Magpie, 2; Bohemian Waxwing, 1,000 or 1,200 in flocks averaging perhaps 200 each; Dipper, 3; Long-tailed Chickadee, 8. Total, 7 species, 21 individuals + Waxwings.—A. D. DUBOIS

Meridian, Idaho (irrigated farm lands).—Dec. 23; 8 A.M. to 2.45 P.M. Dark cloudy, raining about half the time; ground bare; grass growing a little; no wind; temp. 42° (?) at start, 48° (?) at return. Eleven miles on foot. Mallard, 155 (6 flocks); Shoveler (?), 3 (each one alone; only one seen at all well); Great Blue Heron, 2; Wilson's Snipe, 3; Killdeer, 12 (flock); Bob-white, 13 (covey and one bird heard in another place); Chinese Pheasant, 44; Western Mourning Dove, 1; Sharp-shinned Hawk, 4 (2 or 3 may have been some other kind); Hawk sp. (large), 1; Long-eared Owl, 2; Short-eared Owl, 3; Red-shafted Flicker, 18; (Pallid?) Horned Lark, 193; Magpie, 259; Blackbird sp., 3; Western Meadowlark, 33 (nearly all singing); House Finch, 180; Pale Goldfinch (?), 31; Gambel's Sparrow, 65; Shufeldt's Junco, 258; Merrill's Song Sparrow, 51; White-rumped Shrike, 1; Ruby-crowned Kinglet, 3. Total, 24 species, about 1,302 individuals.—ALEX. STALKER.

Denver, Col.—Dec. 25; 10 A.M. to 12.15 P.M., 8 miles by auto to eastern edge of city; 2.30 to 5.15 P.M., 14 miles by auto, south along Platte River. Clear; ground bare; temp. A.M., 28°, noon, 46°, and 5 P.M., 36°. South wind A.M., north wind P.M., both mild and light. Great Blue Heron, 1; Ring-necked Pheasant, 26; American Rough-legged Hawk, 2; Hairy Woodpecker, 1; Downy Woodpecker, 1; Red-shafted Flicker, 4; Desert Horned Lark, 40; Magpie, 30; Red-winged Blackbird, 125; Meadowlark, 8; House Finch, 12; Tree Sparrow, 100; Slate-colored Junco, 1; Montana Junco, 1; Pink-sided Junco, 2; Gray-headed Junco, 1; Song Sparrow, 8; Northern Shrike, 2; Long-tailed Chickadee, 3. Total, 19 species, about 370 individuals.—W. H. BERGTOLD.

Fort Morgan, Col. (a cross-country walk of 5 miles and in returning following a river 6 miles).—Dec. 25; 8.30 A.M. to 4 P.M. Clear; very little snow scattered about; light west wind; temp. 30° at start, 45° at return. Eleven miles on foot. Wilson's Snipe, 14; Western Goshawk, 1; Ferruginous Rough-legged Hawk, 1; Belted Kingfisher, 1; Red-shafted Flicker, 3; Desert Horned Lark, 10; American Magpie, 14; Piñon Jay, 5; Western Tree Sparrow, 125 (3 flocks); 1 flock of 40 Pink-sided and Gray-headed

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Juncos; Northern Shrike, 1; Oregon Chickadee, 5. Total, 12 species, about 232 individuals. The Goshawk was seen coming up the river toward me as he was pursuing the Kingfisher. Just as the latter was close to me I stood up to get a better view, when the Hawk instantly halted in mid-air and retreated as the Kingfisher flew on past me. It was a rather exciting picture.—P. H. STEELE.

Sacaton, Arizona (from Santan Day School on Pima Indian Reservation to Gila River and return in circular route).—Dec. 25; 9 A.M. to 4 P.M. Clear; ground bare, plenty of feed for all; very calm; temp. average, 65°. Killdeer, 16; Gambel's Quail, 500; Mourning Dove, 31; Turkey Vulture, 6; Western Red-tailed Hawk, 4; Roadrunner, 4; Gila Woodpecker, 6; Red-shafted Flicker, 9; Red-winged Blackbird subsp., 30; Western Meadowlark, 60; Brewer's Blackbird, 80; Western Vesper Sparrow, 50; White-crowned Sparrow, 270; Intermediate Junco, 40; Texas Cardinal, 14; Western Blue Grosbeak (male), 1; White-rumped Shrike, 6; Palmer's Thrasher, 18; Lead-colored Bush-tit, 11. Total, 19 species, 1,156 individuals. The Blue Grosbeak was studied with 8x glasses at close range; dark blue in color; bluish bill, very strong and wide.—JOHN B. SLATE.

Spokane, Wash. (to Long Lake and back).—Dec. 23; 10 A.M. to 4 P.M. Clear; ground bare; stiff north breeze; temp. 32° at start, 35° at return. Thirty miles by auto, 3 miles on foot. Observers together. Pied-billed Grebe, 1 (collected); Belted Kingfisher, 1; Red-shafted Flicker, 6; American Magpie, 2; American Red Crossbill, 8; Willow Goldfinch, 4; Oregon Junco, 25; Merrill's Song Sparrow, 2; Slender-billed Nuthatch, 1; Red-breasted Nuthatch, 4; Pygmy Nuthatch, 6; Oregon Chickadee, 10; Western Golden-crowned Kinglet, 7; Western Robin, 1; Western Bluebird, 5. Total, 15 species, 83 individuals. The weather so far this winter has been invariably mild, snowless and almost frostless, so that the usual flocks of birds from the north are mostly absent.—FREDERICK GREENWOOD, DR. A. H. BENEFIEL and WALTER BRUCE.

Multnomah (near Portland), Ore., to Columbia Slough (near Vancouver), Wash.—Dec. 23; 9 A.M. to 3 P.M. Clear; wind westerly; temp. 40°. Thirty miles by auto., 7 on foot. Observers together. Glaucous-winged Gull, 12; Herring Gull, 87; Mallard, 45; Canada Goose, 43; Great Blue Heron, 1; Killdeer, 1; Desert Sparrow Hawk, 2; Kennicott's Screech Owl, 1; Northwestern Flicker, 9; (Streaked?) Horned Lark, 51; Stellar's Jay, 7; Western Meadowlark, 27; Brewer's Blackbird, 35; Golden-crowned Sparrow, 2; Oregon Junco, 241; Rusty Song Sparrow, 19; Oregon Towhee, 11; Western Winter Wren, 1; Western Golden-crowned Kinglet, 11; Ruby-crowned Kinglet, 15; Western Robin, 5; Western Bluebird, 5. Total, 22 species, about 630 individuals.—MAMIE E. CAMPBELL, A. L. CAMPBELL and O. I. GALE.

Portland, Ore.—Dec. 23; 9.30 A.M. to 1.15 P.M. and 1.45 to 5 P.M. Fair, after several days' hard rain; light wind, mostly northeast; ground bare; average temp. 41°. Glaucous-winged Gull, 13; California Gull, 18; Mallard, 8; Bufflehead, 4; Canada Goose, 100; Great Blue Heron, 2; American Coot, 25; Ring-necked Pheasant, 1; Desert Sparrow Hawk, 2; Northwestern Flicker, 6; Western Crow, 87; Northwestern Crow, 2; Western Meadowlark, 14; Willow Goldfinch, 50; Nuttall's Sparrow, 2; Golden-crowned Sparrow, 13; Oregon Junco, 115; Rusty Song Sparrow, 18; Yakutat Fox Sparrow, 1; Oregon Towhee, 7; Oregon Chickadee, 1; Golden-crowned Kinglet, 2; Western Robin, 30. Total, 23 species, 520 individuals.—MARY E. RAKER.

Portland, Ore.—Dec. 26; 9 A.M. to 1 P.M. and 1.45 to 4.30 P.M. Ground bare; rain throughout day; temp. 43° to 58°. California Gull, 6; Mallard, 4; Blue-winged Teal, 5; Bufflehead, 100; Canada Goose, 1; American Coot, 10; Ring-necked Pheasant, 5; Desert Sparrow Hawk, 1; Belted Kingfisher, 2; Harris's Woodpecker, 1; Northwestern Flicker, 2; Willow Goldfinch, 4; Golden-crowned Sparrow, 12; Oregon Junco, 70; Rusty Song Sparrow, 16; Oregon Towhee, 7; Chestnut-backed Chickadee, 4; Golden-crowned Kinglet, 2; Western Robin, 30; Varied Thrush, 2. Total, 20 species, 277 individuals.—HELEN D. TONSETH.

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Diablo, Calif. (within about 1 mile radius from post office).—Dec. 23; 7 A.M. to 5 P.M. Heavy fog all day; light west wind; temp. at start 33°, at return 42°. Killdeer, 23; California Quail, 85; (Cooper's?) Hawk, 1; Western Red-tail, 4; Desert Sparrow Hawk, 5; Nuttall's Woodpecker, 7; California Woodpecker, 42; Red-shafted Flicker, 45; Anna's Hummingbird, 6; Ash-throated Flycatcher, 1; Black Phœbe, 5; California Jay, 42; Western Meadowlark, 57; Brewer's Blackbird, 75; Green-backed Goldfinch, 7; Nuttall's and Gambel's Sparrows, 250; Golden-crowned Sparrow, 650; Western Tree Sparrow, 250; Oregon Junco, 250; Samuel's Song Sparrow, 100; Forbush's Sparrow, 2; Oregon Towhee, 32; California Towhee, 36; California Shrike, 3; Myrtle Warbler, 2; Audubon's Warbler, 25; Pipit, 150; Vigors's Wren, 27; Slender-billed Nuthatch, 5; Plain Titmouse, 68; Bush-tit, 56; Ruby-crowned Kinglet, 15; Dwarf Hermit Thrush, 23; Western Bluebird, 18. Total, 34 species, about 2,366 individuals.—RICHARD COX.

Los Angeles, Calif. (within a diameter of 15 miles, including Hyperion, Nigger Slough, and some of the city parks and cemeteries).—Dec. 21; 7 A.M. to 4.30 P.M. Clear; north wind, light; temp. 63° at start, 70° at return. Nine members of the Los Angeles Audubon Society, in seven parties. Territory reached by street car and automobile; observations taken on foot. Western Grebe, 3; Eared Grebe, 4; Pied-billed Grebe, 13; Glaucous-winged Gull, 3; Western Gull, 106; Herring Gull, 16; California Gull, 748; Ring-billed Gull, 222; Short-billed Gull, 2; Heermann's Gull, 14; Bonaparte's Gull, 354; Forster's Tern, 3; Farallon Cormorant, 27; White Pelican, 1; California Brown Pelican, 35; Baldpate, 1; Green-winged Teal, 2; Cinnamon Teal, 6; Shoveler, 6; Pintail 2; Redhead, 29; Canvasback, 23; Lesser Scaup, 17; Surf Scoter, 240; Ruddy Duck, 6; Bittern, 1; Great Blue Heron, 10; Egret, 7; Black-crowned Night Heron, 2; Sora, 1; Coot, 552; Northern Phalarope, 20; Least Sandpiper, 25; Western Sandpiper, 30; Sanderling, 225; Greater Yellowlegs, 2; Spotted Sandpiper, 1; Hudsonian Curlew, 36; Killdeer, 98; Snowy Plover, 22; Valley Quail, 272; Ring-necked Pheasant, 1; Band-tailed Pigeon, 2; Mourning Dove, 10; Turkey Vulture, 24; Marsh Hawk, 1; Sharp-shinned Hawk, 1; Cooper's Hawk, 1; Western Red-tailed Hawk, 2; Pigeon Hawk, 1; Desert Sparrow Hawk, 16; Barn Owl, 1; Short-eared Owl, 1; Burrowing Owl, 4; Roadrunner, 2; California Cuckoo, 1; Belted Kingfisher, 2; Willow Woodpecker, 1; Red-breasted Sapsucker, 1; Red-shafted Flicker, 31; Black-chinned Hummingbird, 1; Anna's Hummingbird, 53; Cassin's Kingbird, 3; Say's Phœbe, 9; Black Phœbe, 41; California Horned Lark, 200; California Jay, 33; Western Crow, 16; San Diego Redwing, 77; Western Meadowlark, 107; Brewer's Blackbird, 534; California Purple Finch, 5; House Finch, 897; Willow Goldfinch, 26; Green-backed Goldfinch, 57; Lawrence's Goldfinch, 6; Western Savannah Sparrow, 52; Belding's Sparrow, 14; Large-billed Sparrow, 2; Western Lark Sparrow, 14; Gambel's Sparrow, 235; Golden-crowned Sparrow, 40; Western Chipping Sparrow, 4; Thurber's Junco, 42; San Diego Song Sparrow, 89; San Diego Towhee, 17; Anthony's Towhee, 75; Phainopepla, 1; California Shrike, 33; Hutton's Vireo, 9; Audubon's Warbler, 314; Pacific Yellowthroat, 11; Pipit, 273; Western Mockingbird, 45; California Thrasher, 10; San Diego Wren, 8; Western House Wren, 10; Western Marsh Wren, 4; Plain Titmouse, 10; California Bush-tit, 208; Pallid Wren-tit, 40; Ruby-crowned Kinglet, 21; Western Gnatcatcher, 8; Dwarf Hermit Thrush, 12; Western Robin, 21; Western Bluebird, 11. Total, 106 species, 6,988 individuals.—MRS. F. T. BICKNELL and MRS. ROBERT FARGO, DR. E. A. DIAL and MRS. W. H. MARTZ, MISS HELEN S. PRATT, MRS. JOSEPH ANTHONY, MR. L. E. WYMAN, MRS. C. H. HALL and MR. ALFRED COOKMAN.

San Francisco County (Golden Gate Park to Lake Merced), Calif.—Dec. 23; 8.30 A.M. to 6 P.M. Cloudy, light southwest wind, 50° to 55°. Observers in two parties. Western Grebe, 9; Holbœll's Grebe, 1; Eared Grebe, 57; Pied-billed Grebe, 11; Common Loon, 1; Glaucous-winged Gull, 6; Western Gull, 5,000; Herring Gull, 5,000; Ring-billed Gull, 5,000; California Gull, 1; Heermann's Gull, 1; Bonaparte's Gull, 2: Farallon Cormorant, 2; Mallard, 500; Baldpate, 46; Green-winged Teal, 150; Shoveler, 55;

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Pintail, 2; Canvasback, 20; Lesser Scaup, 75; American Goldeneye, 1; Bufflehead, 6; Whistling Swan, 2; Great Blue Heron, 9; Black-crowned Night Heron, 1; Sora, 1; Coot, 800; Killdeer, 185; California Quail, 337; Cooper's Hawk, 1; Western Goshawk, 3; Western Red-tailed Hawk, 1; Ferruginous Rough-legged Hawk, 2; Desert Sparrow Hawk, 3; Western Belted Kingfisher, 1; Red-shafted Flicker, 6; Anna's Hummingbird, 22; Black Phœbe, 5; California Jay, 1; Bi-colored Blackbird, 463; Brewer's Blackbird, 18; Western Meadowlark, 35; Western Purple Finch, 1; California Linnet, 2; Green-backed Goldfinch, 1; Bryant's Marsh Sparrow, 2; Gambel's Sparrow, 1,200; Nuttall's Sparrow, 1,200; Santa Cruz Song Sparrow, 100; Golden-crowned Sparrow, 12; Sierra Junco, 55; Lincoln's Sparrow, 1; Yakutat Fox Sparrow, 4; San Francisco Towhee, 5; California Shrike, 1; Hutton's Vireo, 2; Audubon's Warbler, 475; Salt Marsh Yellow-throat, 6; Pipit, 70; Vigors's Wren, 5; Western Winter Wren, 2; Tule Wren, 1; Santa Cruz Chickadee, 16; Coast Bush-tit, 49; Ruby-crowned Kinglet, 1; Dwarf Hermit Thrush, 7; Western Robin, 2. Total, 67 species, 9,868 individuals. On December 24, the following, also, in the near vicinity: American Bittern, 1; Western Sandpiper, (flock); Least Sandpiper; Hudsonian Curlew, 1; Western Mourning Dove; Marsh Hawk; California Woodpecker; Western Crow; Western Bluebird. Grand total, 76 species, for two days.—W. A. SQUIRES, C. R. THOMAS, and HAROLD E. HANSEN.

Santa Barbara, Calif. (Mission Canyon, Stearns Wharf, Laguna Blanca, west to La Patera—12 miles over all).—Dec. 26; 6 A.M. to 5.30 P.M. Partially overcast to clear; light rain the preceding evening; temp. 51° at 6 A. M. Forty miles by automobile and on foot. Observers together. Western Grebe, 7; Horned Grebe, 1; Eared Grebe, 20; Pied-billed Grebe, 7; Glaucous-winged Gull, 3; Western Gull, 600; California Gull, 250; Ring-billed Gull, 150; Heermann's Gull, 40; Bonaparte's Gull, 60; Royal Tern, 6; Farallon Cormorant, 2,500; Brandt's Cormorant, 500; California Brown Pelican, 60; Mallard, 3; Baldpate, 60; Green-winged Teal, 40; Cinnamon Teal, 3; Shoveler, 1,000; Pintail, 2,000; Canvasback, 90; Lesser Scaup, 300; White-winged Scoter, 300; Surf Scoter, 40; Ruddy Duck, 400; Bittern, 1; Great Blue Heron, 6; Sora, 1; California Black Rail, 1; Coot, 1,000; Least Sandpiper, 200; Red-backed Sandpiper, 3; Western Sandpiper, 100; Sanderling, 250; Spotted Sandpiper, 3; Black-bellied Plover, 50; Killdeer, 40; Snowy Plover, 4; Valley Quail, 10; Mourning Dove, 2; Turkey Vulture, 7; White-tailed Kite, 1; Marsh Hawk, 1; Western Redtail, 4; Golden Eagle, 1; Duck Hawk, 3; Sparrow Hawk, 8; Barn Owl, 1; Burrowing Owl, 2; Belted Kingfisher, 1; Nuttall's Woodpecker, 1; California Woodpecker, 14; Red-shafted Flicker, 20; Anna's Hummingbird, 10; Say's Phœbe, 8; Black Phœbe, 6; California Horned Lark, 200; California Jay, 6; San Diego Redwing, 700; Western Meadowlark, 200; Brewer's Blackbird, 400; House Finch, 200; Willow Goldfinch, 2; Green-backed Goldfinch, 2; Western Savannah Sparrow, 200; Belding's Marsh Sparrow, 20; Large-billed Marsh Sparrow, 5; Western Lark Sparrow, 5; Gambel's Sparrow, 800; Golden-crowned Sparrow, 40; Sierra Junco, 10; San Diego Song Sparrow, 20; Spurred Towhee, 1; Anthony's Towhee, 6; Tree Swallow, 5; California Shrike, 14; Hutton's Vireo, 1; Dusky Warbler, 1; Audubon's Warbler, 500; Tule Yellow-throat, 20; Pipit, 400; Western Mockingbird, 2; Western House Wren, 1; Tule Wren, 6; Plain Titmouse, 4; Bush-tit, 40; Pallid Wren-tit, 3; Ruby-crowned Kinglet, 8; Western Gnatcatcher, 2; Dwarf Hermit Thrush, 6; Western Robin, 1; Western Bluebird, 8. Total, 92 species, about 14,000 individuals. The California Black Rail, the first I have ever seen at Santa Barbara, was flushed at close range in the Estero, within the city limits. On the 24th: Pacific Loon; Parasitic Jaeger; Herring Gull; Baird's Cormorant; Old-squaw (a female narrowly scrutinized); Wilson's Snipe; Cooper's Hawk; Red-bellied Hawk; Pigeon Hawk, California Screech Owl; and Auburn Cañon Wren. For two days, 103 species. This small list is due in part to an unusually dry season, in part to the recent destruction (by fire) of much of the neighboring chaparral, but most of all to the absence of preliminary scouting trips.—GILES E. DAWSON and WILLIAM LEON DAWSON.

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Bird-Lore's Advisory Council

WITH some slight alterations, we reprint below the names and addresses of the ornithologists forming BIRD-LORE'S 'Advisory Council,' which were first published in BIRD-LORE for February, 1900.

To those of our readers who are not familiar with the objects of the Council, we may state that it was formed for the purpose of placing students in direct communication with an authority on the bird-life of the region in which they live, to whom they might appeal for information and advice in the many difficulties which beset the isolated worker.

The success of the plan during the seventeen years that it has been in operation fully equals our expectations. From both students and members of the Council we have had very gratifying assurances of the happy results attending our efforts to bring the specialist in touch with those who appreciate the opportunity to avail themselves of his wider experience.

It is requested that all letters of inquiry to members of the Council be accompanied by a stamped and addressed envelope for use in replying.

NAMES AND ADDRESSES OF MEMBERS OF THE ADVISORY COUNCIL

UNITED STATES AND TERRITORIES

ALASKA.—Dr. C. Hart Merriam, 1919 16th St., N. W., Washington, D. C.
ARIZONA.—Harriet I. Thornber, Tucson, Ariz.
CALIFORNIA.—Joseph Grinnell, University of California, Berkeley, Calif.
CALIFORNIA.—Walter K. Fisher, Palo Alto, Calif.
COLORADO.—Dr. W. H. Bergtold, 1159 Rose St., Denver, Colo.
CONNECTICUT.—J. H. Sage, Portland, Conn.
DELAWARE.—S. N. Rhoads, Haddonfield, N. J.
DISTRICT OF COLUMBIA.—Dr. C. W. Richmond, U. S. Nat'l. Mus., Washington, D. C.
FLORIDA.—Frank M. Chapman, Am. Mus. Nat. History, New York City.
FLORIDA, Western.—R. W. Williams, Jr., Talahassee, Fla.
GEORGIA.—Dr. Eugene Murphy, Augusta, Ga.
ILLINOIS, Northern.—B. T. Gault, Glen Ellyn, Ill.
ILLINOIS, Southern.—Robert Ridgway, U. S. National Museum, Washington, D. C.
INDIANA.—A. W. Butler, State House, Indianapolis, Ind.
IOWA.—C. R. Keyes, Mt. Vernon, Iowa.
KANSAS.—University of Kansas, Lawrence, Kans.
LOUISIANA.—Prof. George E. Beyer, Tulane University, New Orleans, La.
MAINE.—A. H. Norton, Society of Natural History, Portland, Maine.
MASSACHUSETTS.—William Brewster, Cambridge, Mass.
MICHIGAN.—Prof. W. B. Barrows, Agricultural College, Mich.
MINNESOTA.—Dr. T. S. Roberts, Millard Hall, University of Minn., Minneapolis, Minn.
MISSOURI.—O. Widmann, 5105 Morgan St., St. Louis, Mo.
MONTANA.—Prof. J. M. Elrod, University of Montana, Missoula, Mont.
NEBRASKA.—Dr. R. H. Walcott, University of Nebraska, Lincoln, Neb.
NEVADA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
NEW HAMPSHIRE.—Dr. G. M. Allen, Boston Soc. Nat. Hist., Boston.

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NEW JERSEY, Northern.—Frank M. Chapman, Am. Mus. Nat. History, New York City.
NEW JERSEY, Southern.—Witmer Stone, Academy Natural Sciences, Philadelphia, Pa.
NEW MEXICO.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
NEW YORK, Eastern.—Dr. A. K. Fisher, Biological Survey, Washington, D. C.
NEW YORK, Western.—E. H. Eaton, Hobart College, Geneva, N. Y.
NORTH DAKOTA.—Prof. O. G. Libby, University, N. D.
NORTH CAROLINA.—Prof. T. G. Pearson, 1974 Broadway, New York City.
OHIO.—Prof. Lynds Jones, Oberlin College, Oberlin, Ohio.
OKLAHOMA.—Dr. A. K. Fisher, Biological Survey, Dept. of Agr., Washington, D. C.
OREGON.—W. L. Finley, Milwaukee, Ore.
PENNSYLVANIA, Eastern.—Witmer Stone, Acad. Nat. Sciences, Philadelphia, Pa.
PENNSYLVANIA, Western.—W. E. Clyde Todd, Carnegie Museum, Pittsburgh, Pa.
RHODE ISLAND.—H. S. Hathaway, Box 1466, Providence, R. I.
SOUTH CAROLINA.—Dr. P. M. Rea, Charleston Museum, Charleston, S. C.
TEXAS.—H. P. Attwater, Houston, Texas.
UTAH.—Prof. Marcus E. Jones, Salt Lake City, Utah.
VERMONT.—Prof. G. H. Perkins, Burlington, Vt.
VIRGINIA.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.
WASHINGTON.—Samuel F. Rathburn, Seattle, Wash.
WEST VIRGINIA.—Dr. W. C. Rives, 1723 I Street, Washington, D. C.
WISCONSIN.—H. L. Ward, Public Museum, Milwaukee, Wis.

CANADA

ALBERTA.—G. F. Dippie, Calgary, Alta.
BRITISH COLUMBIA.—Francis Kermode, Provincial Museum, Victoria, B. C.
MANITOBA.—Ernest Thompson Seton, Greenwich, Conn.
NOVA SCOTIA.—Harry Piers, Provincial Museum, Halifax, N. S.
ONTARIO, Eastern.—James H. Fleming, 267 Rusholme Road, Toronto, Ont.
ONTARIO, Western.—W. E. Saunders, London, Ont.
QUEBEC.—E. D. Wintle, 189 St. James Street, Montreal, Canada.

MEXICO

E. W. Nelson, Biological Survey, Dept. of Agr., Washington, D. C.

WEST INDIES

C. B. Cory, Field Museum, Chicago, Ill.

GREAT BRITAIN

Clinton G. Abbott, Rhinebeck, New York.

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Book News and Reviews

BIRDS OF AMERICA. Editor-in-Chief, T. GILBERT PEARSON; Consulting Editor, JOHN BURROUGHS; Managing Editor, GEORGE GLADDEN; Associate Editor, J. ELLIS BURDICK; Special Contributors, EDWARD H. FORBUSH, HERBERT K. JOB, WILLIAM L. FINLEY, L. NELSON NICHOLS; Artists, L. A. FUERTES, R. B. HORSFALL, R. I. BRASHER, HENRY THURSTON. Nature Lovers' Library, The University Society, Inc., New York City, 1917. Three vols. 4to. Vol. I, XVIII + 272 pages; Vol. II, XIV + 271 pages; Vol. III, XVIII + 289 pages.

These handsome, well-made volumes contain descriptions of the plumage, nest and eggs, a statement of the range, and description of the habits of the birds of America north of Mexico.

The descriptions of plumage and outline of distribution are based upon Ridgway's standard 'Birds of North and Middle America.' Species not as yet treated in that work are here described by R. I. Brasher.

The biographies, as the title-page indicates, are from a variety of sources. Some have been contributed by well-known ornithologists of wide experience and contain much original matter. Others have been compiled from various works. They average three-fourth of a page in length, and, so far as these limits permit, usually present a pleasing and satisfactory sketch of the life history of the species. The absence of migration dates, however, detracts from their practical value for the field student. A similar omission is found in the text devoted to nests and eggs.

These volumes are profusely illustrated with photographs of birds from nature, from mounted specimens, and from drawings, both uncolored and colored. It is to be regretted that, in justice to the *bona fide* wild-life photographer, the photographs of living birds are not clearly distinguished from those of mounted ones. It is true that photographs of Habitat Groups and other subjects in the American Museum, obviously depict mounted specimens. It is equally obvious that photographs by Allen, Finley, Bohlman, and Job, for example, portray wild birds. But there are others, attributed to contributors who are included in the book's 'Advisory Board' under the head of 'Naturalists' or 'Wild Life Photographer,' which are quite as obviously made from mounted birds placed amid more or less appropriate surroundings out-of-doors. The inclusion of these 'faked' pictures in a work of this nature is unfair not only to the reader, but to every honest bird photographer.

The uncolored drawings of birds by Brasher, Horsfall, and Thurston vary much in character. Some are excellent, while others betray an evident unfamiliarity in life with the species figured, and few show that genius for bird portraiture which characterizes the work of Fuertes.

The colored plates of birds are by the last-named artist and were drawn by him to illustrate Eaton's standard work on the 'Birds of New York,' in which they originally appeared. We fail, however, to find any statement to this effect, and the inclusion of Mr. Fuertes' name on the title-page of the work with that of the artists who have made drawings for this work leaves one to infer that his drawings, in spite of the reference on them to the New York State Museum, also were made for it. As a matter of fact, we are informed that these drawings by Fuertes were included in this work without his knowledge, and that he has instituted proceedings against the publishers of it for the unauthorized use of his name.—F. M. C.

AUDUBON THE NATURALIST: A History of His Life and Times. By FRANCIS HOBART HERRICK, Ph.D., Sc. D. In two volumes, illustrated. D. Appleton & Co., New York; London, 1917. 8vo. Vol. I, xi + 451 pages, Vol. II, xiii + 494 pages.

In these two notable volumes Professor Herrick has shown that a mind trained to the pursuit of ornithological

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biography may be employed to equal advantage in the study of the biography of an ornithologist. His work is characterized by keen, patient, persistent, thorough search for information bearing directly or indirectly on his theme, by breadth of knowledge, both ornithological and historical, which gives him a clear perception of the significance and relations of facts and events, by facility of expression, and by a sympathy with his subject which does not, however, handicap his judgment or predetermine his point of view.

Add to this equipment an evident interest in his task which has made it a labor of love, and it is clear that the fruit of this labor must be given high rank in the literature of biography. Taken in connection with Audubon's 'Journals,' published by his granddaughter, Maria R. Audubon (Scribner, 2 vols.), Professor Herricks' scholarly memoir gives us as complete, adequate, and faithful a history of Audubon's life as we may ever expect to have.

Among the surprising amount of new information concerning Audubon's early life which Professor Herrick has unearthed, the discovery of the place and date of Audubon's birth of course stands pre-eminent.

Heretofore the evidence available has led to the generally accepted belief that Audubon was born at Mandeville, La., on May 5, 1780. Professor Herrick, however, presents data which prove that the great naturalist first saw the light at Les Cayes, Haiti, April 26, 1785.

From this date to the day of his death, January 27, 1851, Professor Herrick gives us a detailed history of the remarkable life of this remarkable and lovable man.

Through it all runs the exhibition of those traits which are shown only by the man born with that intense interest in birds which gives them at all times and in all places first claim to his attention. Whether as a schoolboy in France, as a youthful farmer in Pennsylvania, as a merchant in Kentucky, or as a teacher of drawing in Cincinnati, Audubon's inherent love of birds is constantly in evidence. There were no fellow ornithologists, no one to stimulate or encourage him—indeed, his ornithological pursuits were the immediate cause of disaster in his commercial ventures—nor had he up to this time (1820) conceived the idea of his stupendous undertaking. But the germ was there, nothing could prevent its growth, and it finally carried him triumphant through all the hardships and difficulties of ornithological exploration and the even greater trials of ornithological publication.

To everyone the history of Audubon's life must possess the combined fascination of biography and romance; but to the ornithologist it is a thrilling demonstration of the impelling power contained in an inborn love of bird-life. No manual or textbooks of ornithology can ever teach him the lesson which he may read in every chapter of this work, the lesson that, given a geniune love of birds, he has stored within him a potential force which will enable him to develop his talents to the utmost limit of achievement.—F. M. C.

The Ornithological Magazines

THE CONDOR.—The number of 'The Condor,' for November, 1917, contains two general articles, several brief notes and editorials, and the index of the volume. The principal articles comprise 'The Birds of Molly Island, Yellowstone National Park,' by M. P. Skinner, and a description of 'A New Subspecies of *Geothlypis beldingi*,' by Harry C. Oberholser. Molly Island is a small island in the southeastern arm of Yellowstone Lake, 20 miles off the usual tourist route, and consequently not often visited. The birds include about 700 White Pelicans and 1,000 California Gulls which utilize the island as a nesting-ground, and a few Caspian Terns which have been observed in spring but thus far not found actually breeding. Yellowstone Lake, while one of the important breeding-places of the White Pelican and California Gull, is not the most eastern nesting-ground as intimated,

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since both species breed as far east as North Dakota. Under the name *Geothlypis beldingi goldmani*, Oberholser has separated the Yellowthroat of the central part of the Peninsula of Lower California and has selected a specimen from San Ignacio as the type of the new form.

The short notes include two records of the breeding of the Sierra Junco at Berkeley in 1917, some additional observations on the occurrence of Goshawks in California during the winter of 1916, and other notes of interest.

This number concludes Vol. XIX, which contains 198 pages and shows a reduction of 20 per cent from the size of the previous volume. Doubtless present high prices of paper and presswork are responsible for the decrease in the number of pages, but it is to be hoped that it will not be necessary again to reduce the volume below the limit attained a year or two ago.—T. S. P.

SNOWY OWL
Photograph by H. and E. Pittman

The accompanying photograph of a Snowy Owl was taken in Saskatchewan during the severe winter of 1915–16. During that winter I must have seen nine or ten different birds of this species—more than I have ever seen in a season before or since.

A large straw-pile was left for the young cattle, with two portable granaries to provide shelter. By making a detour it was possible to reach the long cattle-barn from the house without going in sight of the straw-pile, and from the barn it was possible to reach the granaries unseen; it was from one of these that the photographs were taken. The Owl, and later on another one, stayed around the buildings and corrals two or three weeks.—H. H. PITTMAN, Hartney, Manitoba.

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Bird-Lore

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Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
Contributing Editor, MABEL OSGOOD WRIGHT
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

WITH the appearance of this number, BIRD-LORE enters upon its twentieth year. During the two decades of its existence the organization for which it stands has become a firmly established, powerful influence in the conservation of bird-life and in the dissemination of knowledge concerning the value of these winged protectors of our crops and "most eloquent expression of Nature's beauty, joy, and freedom."

Adequate laws for the protection of birds have been passed and their enforcement assured. Scores of bird-refuges and nesting-grounds have been guarded by Audubon wardens and their once persecuted inhabitants, now certain of protection, are returning to their own, and so increasing that those who come after us may be promised those sights in the bird world of which an earlier generation has written. How this preservation of the most attractive of Nature's forms would have delighted the man for whom our Society is named and whose most recent biography is reviewed in this number of BIRD-LORE!

But first among the notable achievements of the Audubon Association is its work in the schools. During the last three years alone over half a million children have been enrolled in its Junior Classes and have received systematic instruction in the value and beauty of birds. The limit to which this profoundly important phase of the Association's work may be developed is set only by the extent of the resources which may be devoted to it. If the Association had nothing else to its credit but this awakening of the child's mind to the uplifting influences of an acquaintance with birds, it would be eminently deserving of the support which the public has so generously accorded it.

The clouds of war should not be permitted to cast their shadow over this work. However much we may be called upon to give for the honor of our country and the freedom of mankind, our children should not be deprived of even a fractional part of their heritage in nature.

SIX young men from the American Museum's Department of Birds and Mammals have answered their country's Call to Colors. Anthony is a lieutenant of artillery; Boyle has been in France for months, the first of the group to reach there; Chapin, Empey and Griscom are lieutenants of infantry; and Leo Miller, a lieutenant of aviation.

It is an honor-roll of which the Museum may well be proud. All but one of these men have had more or less, several of them exceptional, experience in zoölogical exploration, and we cannot but feel that the spirit which led them cheerfully to accept the hardships and dangers they have encountered in the pursuit of their profession as naturalists has prompted them eagerly to offer their services in this call to a higher duty. We are sure that it will enable them to meet the vital tests of endurance and courage which await them.

This we do know, that their experience in the field helped prepare them for their entrance examinations as well as for the subsequent courses of study and training through which they received their commissions.

We commend to Bird Clubs for discussion the possible relation between the unfavorable climatic conditions which prevailed over so wide an area last spring and the existing scarcity of winter birds.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

A NEW YEAR'S GREETING

" 'Tis always morning somewhere, and above
The awakening continents, from shore to shore
Somewhere the birds are singing evermore!"

—HENRY W. LONGFELLOW

A STEP FORWARD

The year 1918 brings with it many new problems but an equal number of possibilities in the way of real progress. It has long been the wish of the School Department that our State Audubon Societies might be more closely brought together, so that, individually, each might share the benefit of a knowledge of what all collectively are doing. At present, many valuable leaflets, bulletins and larger publications are being issued by State Audubon Societies which do not reach the audience of which they are worthy.

There could not fail to be an added zeal in our State Audubon work if more intimate exchanges of reports and observations of bird-study were possible. Take, for example, the recent bulletins in magazine form, published by the Illinois Audubon Society. Here is a wealth of carefully prepared, recent observations and lines of work carried on in the state, which would be valuable and most suggestive to any other State Audubon Society. These bulletins certainly show a decided step forward in the recognition of workable material and live observation. Without attempting to review them, a brief outline of the different aspects of bird-study with which they deal may suggest to other State Societies an improved point of departure. First, these bulletins are charmingly illustrated with pictures showing the discriminating photographer and nature-lover. Second, certain broad fields of study are definitely approached, covering areas within the state which deserve particular notice either on account of their natural beauties and advantages or their possibilities of reclamation and ultimate productivity. Thus 'The Ozark Region of Illinois' is described historically in connection with its ecological and ornithological significance, as one of several tracts, which should be put "under the public care at a time when purchase would incur but little expense," and the Illinois Audubon Society is particularly named as the proper sponsor of a movement to preserve this tract as "a refuge for wild life and as a source of pleasure to coming generations." Similarly, an article dealing with farm and orchard surveys,

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"primitive" areas, comparison of nesting records, the invasion of new areas, and town or city bird censuses maps out definite work to be profitably done in home surroundings, whether rural or urban.

The adventures of a party of Boy Scouts on a trip of discovery down the Embarras River, the work of teachers of zoölogy and nature-study, of local Bird Clubs, and of museums and individual observers *who have things of value to report* are given space in a most helpful way. The underlying objects of the Illinois Audubon Society itself are not overlooked, for both legislative and educational matters of moment are brought clearly to the attention of the reader. It is well worth while to publish such parts of the state and federal game laws as should be made familiar to everyone, whether adult or child, and it is equally of value to collate a bird bibliography especially applicable to the study of birds in the home state of an Audubon Society as is done in these bulletins. The editorials also, are to the point and practical, and are written evidently to aid the farmer as well as the teacher or scholar. Check-lists of Illinois birds, arranged according to orders and comparative local seasonal lists, place within the reach of every child and Audubon Society member information which otherwise might be unattainable by reason of expense or lack of acquaintance with the nature-books in libraries or actual working lists of reliable ornithologists. Altogether, the appearance of these bulletins is most hopeful for a broader, and far more practical and coördinated grasp of bird-study in relation to Audubon Society ends and aims.

From time to time the School Department will bring to the notice of its readers publications of this nature, and, in doing so, invites the coöperation of State Societies in sending copies of such publications for inspection. The success of nature-study undoubtedly depends much upon the united effort of State Audubon Societies and their friends with that of teachers and pupils. Again, the emphasis must be laid upon *unity, not only of purpose, but also of action*.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXVII: Correlated with Physiology and Spelling

THE BIRD'S STORE OF ENERGY

In 1913, we commenced a series of simple studies in structure. The plan of a bird was discussed, some of the most striking features of its skeleton, namely, lightness, compactness, and stability were noted, and the adaptation of the beak and tail and the development and use of feathers were briefly touched upon. All of these parts of a bird's structure are important in its flight, search for food, and nest-building, but they are not the parts which first of all produce its

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energy. We know that, of all living creatures, birds have the greatest amount of energy and are most tireless in their activities. The secret of this fund of power must be sought in the organs of digestion and circulation.

One might suppose that a much larger body would be needed to generate as much energy as a bird needs, and that a framework of elephantine size, for example, would be productive of far greater speed in flight and endurance in cold, storms, or continuous exertion. That this is not only not the case, but is quite unnecessary and even impracticable, Nature has demonstrated during untold ages; for we have now at hand so many of her former experiments in various types of flying monsters for comparison, that we can safely be assured that the modern bird, endowed with flight, has been developed along the most effective and economical lines, to take its part in the world-complex of living organisms.

Just how this has been brought about, the study of comparative anatomy tells us, for without it, some of the peculiarities of the bird's structure would be an insoluble puzzle. In this exercise, therefore, let us search for some of the reasons why a bird is able to produce and keep up so great an amount of motor-power, or energy, observing that this energy is most strikingly expressed in the form of motion and heat in the case of a bird. When one calls to mind a Hummingbird, poising on wings which vibrate so rapidly that they cannot be clearly seen, it is certain that there must be a remarkably perfect mechanism for transmitting the energy which sustains such rapid, and long-continued motion. Great wheels chained to roaring waterfalls and belted to smaller wheels, which in turn move giant gangway saws or huge millstones, scarcely produce an amount of power which will cause more rapid motion.

Again, if one considers a bird like the Penguin, which nests in Antarctic regions, incubating its single egg and rearing its nestling young successfully with no other aid than a particularly warm blanket of fat which keeps in the heat of its body so that it does not succumb to the cold and freeze, it is clear that the energy necessary to keep up and conserve this body heat must be practically never-failing.

The temperature of our own bodies as ordinarily taken by placing a temperature-bulb under the tongue, is normally 98.6° F. On the surface of the skin the temperature varies around 90° F., while inside the body, in the liver, it rises as high as 107° F.

Birds normally maintain a temperature of over 100° F, in general 10° to 12° higher than our own, which is an indication of the rapid rate at which they generate heat. It is useful to remember that no other living organisms have so high a body-temperature. Now the question arises: What produces this wonderful amount of motion and heat, and having once produced it, what keeps it up? A fire will burn fiercely when first kindled, but it soon dies down unless replenished. In a similar manner, as fuel must be constantly supplied to keep up a fire, so fuel in the form of food must be supplied to keep up the energy

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necessary to maintain the heat of the body or any of its activities such as motion, locomotion, or, in man, an activity like the power of thinking.

Food, then, is the real source of the bird's unsurpassed energy, and, consequently, the food-habits of birds form one of the most important and instructive chapters in their life-history. In this exercise there is not space to devote to the kinds of food birds eat, since our object now is to gain some idea of how food is transmitted into a sufficient amount of energy to maintain the tireless activities of birds. It is evident that whatever the process of taking in and digesting food is, it must be governed by certain regulations.

Some of these regulations in the case of birds are:

1. Capacity for a rapid, large, and frequent intake of food.
2. Capacity for rapid and thorough digestion.
3. Capacity for rapid elimination of all waste material.

All of the powerful apparatus necessary to keep up the bird's food-factory must, moreover, conform to the requirements of its general structure, which, we have recalled, are lightness, compactness, and stability. In other words, the bird must at one and the same time keep up a maximum of food-producing energy with a minimum of apparatus. It is a wonderful problem worked out in some of Nature's most perfect ways.

Watching a bird eat, perhaps the most surprising thing is the amount it eats and the rapidity with which it eats. Although a bird may occasionally get choked or have a pain from such hasty and unlimited eating, it is probable that its digestion is so carefully regulated that few upsets of this kind occur. Nature has provided birds with two very effective contrivances to take care of the large amounts of quickly gulped food, namely a crop and a gizzard. The crop, you may recall, is between the mouth and the stomach, a sort of half-way reservoir where food can be stored until the stomach is ready to take charge of it. Now a bird's stomach is made up of two parts, a *proventriculus* or glandular stomach, resembling the human stomach, with gastric juices to aid in breaking up particles of food, and a gizzard or grinding-mill, as it might be described, from its thick walls and content of stones, swallowed by the bird for the actual purpose of grinding its food. Following the digestive apparatus on farther through its tortuous windings, we discover that as soon as all of the useful parts of the food-materials in the stomach have been broken up and passed on into the blood to be circulated throughout the body, the refuse or non-usable parts, are rapidly pushed along out of the food-tube to make room for a fresh supply. This well-nigh perfect system of digestion insures to the bird the ability to produce, by means of an unusually large amount of food, the immense motor-power which it requires for its daily activities. Could we examine in detail this digestive outfit, we should understand far more clearly the value of birds as the friends of man and the guardians of forests and fields. At the same time, we should be more than ever impressed with Nature's ability to perfect a plan in a special manner for a particular purpose. Although

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it is too long and complicated a story for us, as yet, to follow through, we can learn it bit by bit, as we study more and more into the subject of the bird's structure.

When we come to the circulatory system of the bird, which goes hand in hand with its digestive system, the same economy of apparatus is found, *without loss of thoroughness*. In birds, the blood is kept pure and moving rapidly, especially to the relatively huge flight muscles, for it is very necessary to have constantly on hand fresh, air-purified blood in sufficient quantity to aid in producing the energy which must be ceaselessly transmitted into heat and motion and other uses.

If you could look at the heart of a fish and the heart of a reptile and the heart of a bird, with all the arteries, veins, and tiny tubes called capillaries that go into them, you would have one of Nature's interesting stories before you. It is something to look forward to as you study more, and though it is in places difficult to discover all the reasons for the different ways in which the blood of fishes, reptiles, and birds circulates, there is *always* a reason and it can be found out by careful study.

A point to emphasize now is the practical working of the bird's internal machinery and, as already said, this centers around food. With the bird, it is always food and more food. In fact, food is the mainspring of all life, and this we are coming to realize in these days of stress and war, as never before in this generation. If the food-relations of different races and classes of men could be more equally adjusted, it is probable that the major woes of mankind would disappear, for the demand for food and for more food is constantly uppermost in our daily life, with the increase and spread of population. Birds have then a problem quite like our own to face, which should lend interest and sympathy to our study of and relations with them. It is a modern philosopher who says: "The haps and mishaps of the hungry make up natural history."

In this year of 1918 we are all called upon to conserve and to produce more food than ever before. The birds can help us if we will help them. One way to take hold of this question of the food-relations of birds and man is to classify the different kinds of food and food-habits—first, of birds and, second, of man.

A simple scheme with reference to birds, as follows, may be suggestive to you, in making out a similar scheme for man:

I

1. Fish-eating birds.
2. Vegetarian birds. Weed-seed, fruit, grass and tender weeds.
3. Insectivorous birds.
4. Carnivorous birds.
5. Birds which eat more than one kind of food.
6. Birds which vary their food during the different seasons of the year.
7. Birds which eat carrion or are of scavenger habit.
8. Birds which feed in flocks and reasons for the kinds of damage they may unwittingly do to crops.

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9. Birds which distribute seeds: useful to man; harmful to man.
10. Birds as guano-producers. Actual money-value to man.
11. Birds as guardians of forests; as pruners of vegetation.
12. Birds in relation to destructive insect pests; fungous pests.

Refer to *Useful Birds and Their Protection* by E. H. Forbush; *Birds in Their Relation to Man*, by Weed and Dearborn; and bulletins of the United States Department of Agriculture on Economic Ornithology.

II

1. Kinds of food of different races of men.
2. Distribution of staple articles of food, such as wheat, corn, rye, barley, sugar-cane, vegetables, fruits, rice and other cereals, coffee, tea, *cacao*, *cocoanut*, dates, figs, fish, and shell-fish.
3. Supply of milk, cream, fats, and meat and necessity for any or all of these.
4. Which kinds of food are most indispensable to life?
5. Which kinds properly cooked and properly eaten will produce the most energy?
6. Which kinds are produced in the greatest abundance?
7. Which kinds are used by the greatest number of people?
8. Which kinds of food preferred by man do birds eat?
9. Which kinds used by man do birds protect?
10. Which kinds are capable of being improved? How?
11. Which kinds can be grown in a home-garden? Which, only in large and specially cultivated areas?
12. How can man best help birds so that they in turn may help him best?

See *Crop Zones and Life-Zones of the United States*, by D. C. Hart Merriam; Bulletin No. 10, 1898, U. S. Department of Agriculture; Work of Luther Burbank; *Wild Bird Guests*, by Ernest Harold Baynes.—A. H. W.

FOR AND FROM ADULT AND YOUNG OBSERVERS

SOME HIGH-SCHOOL METHODS OF BIRD-STUDY

In response to inquiries concerning our work, I wish to inform you of what we are doing here in the way of interesting the students in birds and bird-study.

During the first two weeks in February I showed a set of lantern-slides to all our first-year classes and encouraged them to form a Junior Audubon Society. The slides showed types of winter birds and methods of attracting birds. In my talk I emphasized the economic importance of birds.

Since that time, under the direction of Miss Amy E. Hale, about forty students have formed a society. They are to send their names this week.

This past week, through the direction of the South County Rod and Gun Club and the State Bird Commission, thirty-five students have distributed 300 pounds of scratch-feed and the Boy Scouts each carried a bag of grain when they started on their hike. The newspapers have reported

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this, and some wholesome aid has been given to interesting the people in finding the birds.

Miss Hale in her Introductory Science Classes has planned extra work for credit in recognizing and keeping records of birds and bird migrations. Several have started records of this kind. I hope that the stories and records of this work will be worth sending to you later.—ISRAEL R. SHELDON, *Principal, Westerly High School, Westerly, R. I.*

BIRD CONSERVATION IN CEMETERIES AND PARKS

Bird-lovers generally are beginning to realize what wonderful opportunities for bird conservation are to be found in our city cemeteries and, possibly, even in the small city parks, wherever the vagrant cat problem is not too much neglected. Philadelphia, with the largest natural park in the world, has just decided to utilize the wonderful resources for increasing the bird-life about the city, a very necessary consideration with all the added vegetable-gardens under cultivation this year. Insecticides are necessary and helpful, but the best insect-destroyers of all do not come in bottles or packages, but in nests and bird-boxes.

THE GIRARD AVENUE JUNIOR AUDUBON SOCIETY

Under the encouragement of Mrs. W. Hersey Thomas, a student of birds and insect life, the children in the Friends' Schools of Philadelphia and Germantown have this past spring made a number of Bluebird and Wren-boxes, and, with the coöperation of the Park Commission, forty of these boxes have already been erected in Fairmount Park, about Chamounix, and on the upper part of Lincoln Drive. More will follow next year. Feeding-stations for winter care of the birds will soon be put up, and bird-patrols among the school-children will look after them.

This movement, if consistently developed, should succeed in increasing the

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knowledge of birds and their usefulness to man better than mere class-room work and could well be made part of the regular curriculum in our schools.

Every child interested means one less unconscious destroyer of bird-life and one more active helper in its conservation.

[To these practical suggestions, the School Department can add only its unreserved approbation. Concrete work with a *definite end in view* will help to raise the standard of bird-study more than any other one thing. For further advice in this matter, see Circular No. 2, 'Cemeteries as Bird-Sanctuaries,' National Association of Audubon Societies.—A. H. W.]

A WORD OF APPRECIATION AND A TESTIMONY TO THE VALUE OF BIRD-STUDY

I get the *American Boy, Boys' Life, Boys' Magazine, Youths' Companion* and many other magazines, but BIRD-LORE has always been my favorite paper. I started getting it November-December, 1914. I enjoy reading it through again and again. I wouldn't stop getting it for the world.

My favorite pastime is bird-study. I am just 13 years old but have seen, mostly in Hampden, 104 species of wild birds, including the Wood Duck, Snowy Owl, Great Blue Heron, Woodcock, Little Green Heron and Bittern. All of these were seen in Hampden. The Robin, Bluebird, Song Sparrow, Crow and Junco are already here from the South, and to-day I put up a ten-room and a three-room Swallow house and a two-room and a one-room Bluebird house. I already had out several houses and two big lunch-counters. Today I put out a cement bird-bath.

I will be mighty glad when I get the next issue of BIRD-LORE.—NORMAN LEWIS, *Hampden, Maine.*

[It is pleasant to know that BIRD-LORE is so much appreciated, especially when it is compared with such admirable publications as those cited above. One reason for the strong appeal which this magazine makes is the fact that it is based almost entirely upon actual observation of living birds. In no study is there a wider opportunity for keen observation, careful discrimination, and esthetic appreciation. Again the controversy comes to mind of the value of bird- and nature-study for purposes of culture and utility. It hardly seems that any other study is better adapted to these ends.—A. H. W.]

A RURAL JUNIOR AUDUBON SOCIETY

As the teacher of Junior Bird Class 783, Hudson, Mass., I would like to tell you a little of our work.

During the year we held twenty-nine meetings. The average attendance was eight. May 6 we had an exhibition in the primary room of our rural church, which was attended by interested friends, who examined carefully the work of the children. A collection of forty nests, belonging to the class, was shown. Our oldest member gave us the Audubon motto beautifully lettered. Another member had a most interesting collection of feathers, each mounted on a card,

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with the name of the species to which it belonged, while another showed a 'Book of Birds' which she had worked on all winter. The Leaflets made a great display and represent many, many hours of work. A short program, given by the children, consisted of original papers, poems by various authors, etc.

On our first bird-walk we observed eight species, and on our last walk for the year, twenty-three. The older members keep weekly lists. At our last meeting one member had twenty-six species. The number of species observed by the class is forty-three. It has been a great surprise that the pupils could so easily see and hear such a large number of species.

One member saw a Junco with nesting material in its bill, and later in the season I saw and heard the Junco singing its simple trill. A pair of White-breasted Nuthatches nested near my home and brought their three babies to the winter feeding-station.

The lessons in the School Department are greatly enjoyed by the class. They are now learning the one about types of nests. The second year's work has started well, fifteen children being enrolled at the second meeting.

This report tells nothing of the joy of the children over each new species, nor of my own in the class as a whole. Some of the members are looking forward to years of work together.—AGNES M. LEARNED, *Hudson, Mass.*

[From the *Clinton Daily Item* the following description of the reasons for the organization of this Junior Class is taken. The article, together with the teacher's letter, brings out several points of distinct value: First, the formation of the Society as a natural and spontaneous outgrowth from a Sunday-school class in which a live interest in nature had been awakened, is distinctly unusual and wholly to be commended. Second, the exhibition held in the children's room in the church. to which "interested friends" were invited who "*examined carefully the work of the children*," is an example of painstaking, concrete work, individually helpful and rewarding to teacher and pupil alike. Third, the value of weekly bird-walks with individual lists not only taken and kept, but *compared* in the class, is brought out. Fourth, the joy and comradeship of this Junior Audubon Society, and the desire of many of its members to continue bird-study, are evidently a natural outcome of sympathetic teaching and willing working.—A. H. W.]

THE CHICKADEE

There's a little bird singing up in the tree,
"Chickadee—Chickadee—Chickadee—dee."
He wears a black cap and has a black throat,
The rest of him's grey. Can you hear his clear note?
He does not keep still very long, you may know,
And he keeps hopping 'round, in the rain or the snow.
He's happy all day, if warm or if cold;
He comes near the house, but is not very bold.
He gets very tame if you treat him just right,
And will stay near your house from morning 'till night.

—By a member of the Hudson Junior Bird Class,
BESSIE MCCULLOCH, VIII Grade.

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AN OBSERVATION AT FIRST HAND

I am writing to tell you about a bird I have seen. One night after school I was playing in the yard and a Cedar Waxwing lit on the ground by a stone. I thought it seemed very tame and so I tried to see how close I could come to it before it flew. So I went up to it. It did not seem afraid, so I picked it up in my hands. It did not struggle. I carried it into the old wash-house in a basket and fed it on seeds. It got so it flew all around and then I carried it across the road and let it go and it flew away.—LEONICE HILL, *Ashville, Maine.*

[Perhaps this bird was exhausted from a storm, or was not well, for even birds can be ill, or it may have been a young bird, strayed from its mates. Cedar Waxwings are accustomed to go in flocks, usually small but sometimes, as has been lately reported, in numbers as large as twenty-five or thirty or more.—A. H. W.]

AN EXERCISE IN BIRD-STUDY

Dear Jerome:

In the paper there was a notice to feed the birds. There are a great many birds in your woods, and when you go to the camp you could feed all the wild birds. You ought to read the story of "*Freckles*" and do the same as he did. When I go out there we will take a walk in the woods and see the birds. The snow is very deep out there, and the birds can't find anything to eat. I will write and tell you about our bird-club sometime.—EARLE TOMPKINS, *Easthampton, Mass.*

[The teacher who sent this article, simply asked her class to write something about birds, after reading the scene in "*Freckles*" which describes his interest in birds. She writes: "In addition to the club in my own school, I have been starting bird-study in the other public schools of the town. As an experiment, we took only grades 5 to 7 and have ten clubs. The Superintendent has furnished a substitute for my room, and I have done it without extra pay, for the experience. I hope sometime to get into this work altogether." Again, a teacher who is full of enthusiasm and a desire to make bird-study, not only successful, but general in the middle grades, shows how possible it is to put this study on a practical and, at the same time, pedagogical basis. It is much to be desired that more experienced teachers can go into the work of organizing bird-clubs.—A. H. W.]

MAKING BIRD-BOXES

I am going to make a bird-box for the birds. When the cold weather comes they like to have a house to go into. In our room we have made forty-one bird-boxes. Many boys and girls have made one, and they have put up forty-one bird-boxes. In our room some of the boys and girls have joined the Audubon Society.—EDITH STRIGEL, *Lawndale, Pa.*

[This brief chronicle of work accomplished suggests the question of how many birds seek bird-boxes as places of shelter during the time *when they are not nesting.* Who can answer this question from personal observation?—A. H. W.]

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A SOUTHERN CHRISTMAS CENSUS

We are two little girl-sisters who are living in Georgia now with our papa and mama.

We were born in Knoxville, Tenn., on Chestnut Hill, where there are a great many birds, and Aunt M——— W——— who loves birds, taught us their names. When I was two and a half years old I could name twelve birds.

Aunt M——— came from Tennessee to spend Christmas with us.

This morning we took little sister B——— and walked through Inman Park where there are a great many evergreen trees called water oaks. We were looking for birds for our Christmas Census. We saw: 12 Blue Jays, 6 Towhees, 5 Cardinals, 2 Mockingbirds, 25 in all. We heard a Flicker and a Carolina Wren and thought we heard a Bewick Wren.

The weather is so warm that we have the windows open.—ANNE WOODWARD KING (age 5 years), BETH RANKIN KING (age 2 years), *Atlanta, Ga.*

[This census is dated December 25, 1916, and being published a year later, as it is, comparisons with this year's weather, which is unusually severe up to the time of writing, December 12, as well as with the occurrence of winter birds this season, will be helpful. The fact that one of these little girls learned to name twelve birds before she was three years old suggests the appeal of birds to very small children. A boy friend, James York, learned to recognize many birds from a picture-book almost as soon as he could talk.—A. H. W.]

A SNAPSHOT OF A GRAY SCREECH OWL

NOTE.—The contributor of this picture, Wolfrid Rudyerd Boulton, Jr., writes from Beaver, Pa.: "A snapshot of a gray Screech Owl that wintered in our orchard. Its mate was rufous. A pair of Flickers raised a brood of six young ones in the same hole this season."

[This observation of double tenantry during a season might often be duplicated, no doubt, if Junior Audubon members were on the lookout *during all seasons of the year*. The Screech Owl, one of our small Owls, is quite common throughout a wide area, and

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is always an interesting as well as useful neighbor. Just why its weird, tremulous call should lead superstitious people to think it forbodes trouble, it is hard to say, unless it is the survival of a tradition among country folk handed down for centuries.—A. H. W.]

VACATION OBSERVATIONS

This summer I spent part of my vacation at Lake Winnepesaukee, N. H. One morning when I was out on the lake I saw an Eagle flying not far above us. That afternoon as I was enjoying a motor-boat ride to Centre Harbor, I saw two Bald-headed Eagles resting on the limbs of a dead tree. We were so close to them that we could easily see the white spots on their heads which I was told is the reason for calling them bald-headed. A little further along we passed near two Loons. Our view of them was very short, as they soon went under water, which is their custom when danger approaches.

Another day we went across the lake to visit the Libby Memorial Museum, which contains specimens of all the birds, mammals, reptiles, and fish which inhabit the surrounding country. I recall particularly the handsome feathers of the wild Ducks and Pheasants, also those of the Partridge and Woodcock. If any of your readers should visit that part of the country, I hope they will go to the Libby Museum at Luftenbrough. It is worth while.—JANET MERRILL, (age 12 years. Grade VIII), *Methuen, Mass.*

["Written by a member of the Methuen Junior Audubon Society," says the letter of the organizer of the Society which accompanied these observations. "The writer is very observant and enthusiastic, and . . . I am anxious to encourage these traits in the other thirty members of our flourishing Club. They read BIRD-LORE at the meetings." To those acquainted with the bird-life about Lake Winnepesaukee, these notes on the Bald-headed Eagle and Loon will bring back delightful memories of similar observations on red-letter days.—A. H. W.]

JUNIOR AUDUBON WORK AND THE ENGLISH SPARROW

We have just got up a bird club in our room, but we haven't named it yet. I would like it to be an Audubon Society. We had a bird club here for children and adults last year. There were about twenty-five adults and twelve boys.

We had Prof. Randolf from Youngstown, Ohio, give a lecture on his experiences with the birds, using lantern-slides to illustrate it. The club has broken up now although I don't know the reason.

I listed 121 different species of birds last year and have 41 this year so far.

We are in a good place to look for birds, as Grove City is situated a mile and a half from Barmore Lake, and on the banks of Wolf Creek. Lots of Wild Ducks visit these waters. A Wood Duck has nested for several years along Wolf Creek, 2 miles out from town.

As I sit here and write I have to tap the window every few minutes to keep the English Sparrows from eating the food that I have set out for other birds. I have had Robins, Chipping Sparrows, Song Sparrows, and Chickadees

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visit my feeding-house, in a town of 5,000. I am eleven years old.—NEVIN G. NICHOLSON, *Grove City, Pa.*

[Readers of the *School Department* will be interested, it is hoped, to report on the amount of interference with other birds, caused by the English Sparrow at winter feeding-counters. All such observations will be gladly received and compared.—A. H. W.]

The boys of the Junior Audubon Nature-Study Club, Bellefontaine, Ohio, decorated a tree for the birds on December 23. Pop-corn, suet, cranberries, bread, etc., were hung on the tree, with Xmas bells.—DANIEL MCMILLEN, *President, Bellefontaine, Ohio.*

BIRDS ON A STATUE

I watched some birds across a city street
Affrighted at the sound of coming feet.
They scorned the teamster's proffered grain to share,
Viewing each lure askance as though a snare,
While little children brought their crumbs in vain,
Eager some mark of confidence to gain.
Distrustful of each human move, at last
They flew upon a statue where they passed
Long restful minutes on the arms and head
That, never having moved, they knew were dead.
O what a travesty on *gentle Man!*
That even little birds have learned to scan
Him first, if he indeed be flesh and bone,
Or, harmless bronze, or cold protecting stone.

—E. J. SAWYER,

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

A WARNING!

There is great danger that, in the face of the numerous calls on the time and means of the people of this country to help fight the battle of civilization, the necessity of conserving our wild bird- and animal-life may, in a measure, be lost sight of. In fact, there are many signs that this tendency has already developed. Numerous bird-clubs and other organizations of a similar character have recently reported the suspension of activities.

It is perfectly natural that many good, patriotic people who have theretofore warmly supported bird-protective efforts should now feel that all their available resources must be given to the defense of their country and to the alleviation of human suffering.

But if the friends of bird-protection are to some extent temporarily suspending their interest in the cause, it is most certainly true that the enemies of wild life are very much alive, and the time has come when those of us more actively engaged in wild-life conservation should set the danger-signals flying from every hill. Never since this Association began its organized work, thirteen years ago in January, have there been so many indications of concerted effort to break down bird- and game-restrictive measures as right now.

Let me cite a few exmaples: Gunners in several of the eastern counties of Massachussetts have combined, and, by the assistance of certain officials in Washington whose names need not be called, have begun a dangerous move to throw open the spring shooting of wild fowl in that territory. Exactly similar efforts are being made by the coastwise gunners of New Jersey. The very existence of Klamath Lake and Malheur Lake as Federal bird reservations is today hanging in the balance. These contain the most important breeding colonies of Ducks and Geese in the northwestern part of United States.

Down in the mountains of northern New Mexico is one of the largest breeding territories of Ducks in the Southwest. For weeks this office and the Game Protective Association of New Mexico have been exerting the utmost efforts to prevent this breeding area, known as Stinking Lake, from being leased to a company of eastern gunners for exploitation.

The most important inland wintering-place for Ducks in the eastern United

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States is Big Lake, the Federal reservation in eastern Arkansas. As this is being written, a communication lies before me stating that, backed by commercial interest, it would seem that every man, woman, and child in all the country surrounding this great lake has recently signed a petition asking that, at least for the duration of the war, all prohibition of shooting be suspended, so that Ducks may here be killed for food. From Virginia come reports of efforts being made to suspend the law so as to permit the netting of wild water-fowl.

When we consider the enormity of the food problems which may confront this country, the danger that lies behind these cunningly conceived moves is very apparent.

The Migratory Bird Treaty Bill passed the United States Senate on July 30, but thus far it has been absolutely impossible to induce Congressman Flood, Chairman of the Foreign Relations Committee of the Senate, to report the bill for senatorial action. If this is not done at the present session of Congress, all the efforts which the bird-protectors have made the past two years to get this treaty measure concluded will come to naught. There is every indication that tremendous pressure has been brought to bear on the Foreign Relations Committee to induce its inactivity.

What are the friends of the birds going to do in this country? The time has come when the situation should squarely be faced. Are we going to say that we have no more time and money to give to help preserve the birds that make it possible to grow the crops of the land and to preserve our diminishing supply of wild game-birds? Are we going to say that the birds must shift for themselves until the enemy is conquered? In other words, are we going to abandon the work of a generation because of anxiety regarding conditions across the sea?

Where can we get more valuable workers to help win the war than we have in our groves and fields? The wild birds ask for nothing more than to be let alone. This Association, in common with other organizations and individuals, has for years been standing as best it could between our Wild Life and the greed of mankind, and it would be an everlasting calamity if the work of all these years should be wiped out or nullified to a horrible extent for the lack of earnest volunteer workers, or a few thousand dollars with which to fight the battles for the birds, and yet this is a possibility.

There never has been a time when the friends of conservation should more loyally support the efforts for bird-protection than today.

CORNELL TO TEACH CONSERVATION OF WILD LIFE

By E. A. QUARLES, Director
Department of Game Breeding, American Game Protective Association

The recent announcement by Cornell University of the establishment of a course of intensive instruction in the conservation of wild life is welcome news. Commencing February 18, 1918, there will be given at this institution what will be known as the Long- and Short-term Courses in wild-life conservation.

The Long-term Course is designed for those who wish to make a life-work of conservation, and it is designed especially for the training of men and women who expect to engage in the many forms of field and executive work that the conservation movement has already developed, such as, for instance, state secretaryships of Audubon Societies, game protective associations, bird-lecture work, etc. This course will require four years' work for completion and will lead to the degree of Bachelor of Science. The usual Cornell entrance examinations will be required of those seeking to take it.

The Short-term Course, for which

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entrance examinations are not required, is designed more particularly for the following:

1. Those who wish to receive instruction in the principles of game breeding and preserving, with the idea of fitting themselves for the position of gamekeeper.

2. Those who wish to take up the breeding of game as a commercial pursuit.

Lectures and laboratory work in this course will be given from February 18 to May 11, and the entire work of the course will be completed September 1, the interval between the end of the lectures and the closing of the course being spent on a game-breeding experiment farm which has just been established at Cornell under authority of an act passed by the New York Legislature at its last regular session.

For the benefit of many who will be interested to know the facts leading up to Cornell's unique action, the following brief history is given: To Herbert K. Job, director of the Department of Applied Ornithology of the National Association of Audubon Societies, is due the credit for first putting in operation the teaching of wild-life conservation in an American institution of learning. This work was in the Connecticut State Agricultural Experiment Station at Storrs.

Later, Charles E. Treman, of Ithaca, N. Y., a trustee of Cornell University, suggested informally that the installation of a game-breeding experiment farm at the University would be of great value in increasing the game-supply of the state. No definite steps were taken, however, to bring about action on the suggestion.

Three years ago, those in charge of the Department of Game Breeding and Preserving of the American Game Protective Association found that the movement to supplement the supply of wild game by producing it under intensive methods in captivity was heavily handicapped through the lack of men experienced in game-breeding and scientific game-preserving. Men qualified for such work are usually termed gamekeepers. The principal source of supply for such workers was Great Britain, but that country was not able to furnish a sufficient number of men to meet the demand.

Finding itself faced with such a serious check to a movement so promising to the betterment of wild-life conservation work, the American Game Protective Association set about finding a solution for the problem.

It took little reasoning to suggest that the utilization of the many excellent schools of poultry husbandry promised the best and quickest solution. The Cornell School was fixed upon as an institution of splendid promise after a thorough investigation.

Cornell had to be convinced, however, and so an opening wedge was used in the offer, two years ago, to give a lecture on the technique of game-breeding before the Department of Poultry Husbandry. This was accepted, and it resulted in an invitation for a second lecture and a series of talks on game-breeding during the following session.

These lectures, fourteen in number, were given last December and were attended by more than 1,500 persons. The lecturers were Messrs. Herbert K. Job, Harry T. Rogers, and E. A. Quarles. Several of these lectures were repeated the February following, during Farmers' Week at Cornell, when nearly 4,500 farmers from the entire United States were in attendance at the University.

The situation was now ripe for the movement to establish a game-breeding experiment farm at Cornell and install a course of instruction in game-breeding and wild-life conservation. A bill appropriating $15,000 to purchase the farm was introduced and, strongly backed by the National Association of Audubon Societies, through its secretary, T. Gilbert Pearson, and the American Game Protective Association, it was passed and received the approval of Governor Whitman.

The farm has been selected. Taking title awaits the approval of the Attorney-general. It is located within easy walking distance of Cornell and possesses unusual advantages for the purpose for which it is to be employed. This course of instruc-

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tion has all been laid out and awaits only the approval of the Cornell authorities for announcement.

Among those who will take an active part in the lecture work may be mentioned Messrs. T. Gilbert Pearson, Herbert K. Job, E. H. Forbush, Ernest Harold Baynes, and Clinton G. Abbott, well-known lecturers on birds; Louis Agassiz Fuertes, Dr. A. K. Fisher, W. L. McAtee, Bradford A. Scudder, and many others equally well-known. The work on game-breeding and preserving will be conducted by Messrs. Job, Rogers, MacVicar, Burnham, Quarles, and others. From the Cornell faculty will be drawn such men as Dr. Arthur A. Allen, whose work in economic ornithology is so well known; Dr. J. G. Needham, the well-known biologist, Prof. James E. Rice, and others.

Conservationists may well look upon the work proposed as one of the most important that has yet been undertaken in connection with the national movement to increase the country's wild life.

BIRD LECTURES

Herbert K. Job, of the Association's Department of Applied Ornithology, will devote part of his time this winter and spring to giving public lectures, both on general topics of wild bird-life and on the practical aspects of attracting and propagating wild birds and game. A descriptive circular of these lectures will be mailed, either by Mr. Job or from this office, to those who desire it. The lectures are illustrated, either with motion pictures or from Mr. Job's wonderful collection of colored lantern-slides. All fees received are used in support of the work of this Assoication, and it is hoped that these lectures will be in great demand by our friends. Detailed information may be obtained by writing Mr. Job at 291 Main Street, West Haven, Conn.

REPORTS OF AFFILIATED ORGANIZATIONS

Audubon Society of Sewickley Valley (Pa.).—Birds in this valley have noticeably multiplied since the organization of this Society on April 28, 1914, at the home of Mary Roberts Rinehart, and we feel that a goodly percentage of credit in their increase is due to the efforts of our Society.

Our activities for the past year include such efforts as interesting and educating the children through propaganda work in the schools; lectures for all ages; field outings for every member; bringing together the members of two Audubon Societies at a large annual dinner; and legislative work for the protection of Herons and migratory birds.

The work among the school-children has resulted in several Junior Audubon classes, and in the springtime they made several excursions with their leaders into the fields and woods. The study of birds is also included in the school curriculum, and a practical turn is given to this study by the making of bird-houses, of which over seventy were turned out by one school last spring.

A lecture in Sewickley, on November 17, by Mrs. S. Louise Patteson, of Cleveland, on 'How to Have Bird Neighbors,' was of especial interest, as her bird- and feeding-boxes were so simple that an unskilled child could make them.

Mr. Oldys, from Washington, D. C., was again with us this spring, and gave

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a lecture on 'Bird Friends' and several informal talks illustrated with stuffed bird specimens. He also conducted several outings.

One of the most enjoyable affairs of the year was the second annual meeting of the Western Pennsylvania Audubon Society and the Audubon Society of Sewickley Valley, at a dinner in the Fort Pitt Hotel, in Pittsburgh, at which several hundred members were present. Several notable speakers addressed the gathering, including Mr. Norman McClintock, who illustrated his address with his wonderful moving pictures of birds. A new committee has been appointed to erect bird-houses and winter feeding-stations along the miles of bridle-path through woodland and field.

A very interesting article, taken from the *Ladies' Home Journal*, on 'The Destructiveness of Cats on Bird Life,' was published by this Society in the local weekly paper. The Audubon posters for the encouragement of birds in our war gardens have been displayed in the shop windows of the neighborhood. The Society joined in the general protest to Congress in defense of the Migratory Bird Treaty Act, and many assurances of support were received. A bill before the Legislature at Harrisburg was so amended, on protest by this Society, that full protection to the Herons in this State is now assured. The Society now numbers 235 members and feels that it has had a very successful year.—(Mrs.) M. G. Rose, *Secretary*.

Audubon Society of the Pacific.—This Society was organized January 25, 1917. Though the active members number only 80, and the war has called some away, the organization has already earned recognition by scientific organizations and several departments of our state and Federal governments.

The need had long been felt for a sustained supervision over a wider area of the Pacific Coast than had as yet been attained by any local and already-existing State Audubon Society. The organization of the Audubon Association of the Pacific was for the purpose of meeting this necessity. The organization was hardly completed before many and important tasks were clamoring for attention. In the first few weeks of its existence the Association was instrumental in securing the defeat of the notorious 'Flicker Bill' in Legislature at Sacramento. This was an attempt by pseudo-sportsmen to put some useful insectivorous and song-birds on the roll of their hapless victims, the game-birds. The preservation of certain harmless Hawks, Owls, and Kingfishers, which had heretofore been included among the destructive species to bird and fish-life in the Golden Gate Park, San Francisco, was taken up with the Directorate of the Park and met with a cordial and ready approval. The passage of the Federal Migratory Bird Treaty Act was urged upon representatives from the seven California counties at present included in the membership of the Association. All these lawmakers expressed approval of the measure and promised to support it.

The Association is carrying on a world-wide investigation as to the des-

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truction of bird-life by waste oil on the ocean. It is hoped that some information will be forthcoming in the near future, and that measures may be inaugurated for the suppression of this scourge to the ocean avifauna, which has assumed alarming proportion off our California coast. An investigation as to the killing of birds at the lighthouses of the Pacific Coast is also under way, and some thirty-six letters have been received from lighthouse keepers in answer to a list of questions sent out. The study of these letters promises to shed some new light on the destruction of birds at such places and also some interesting facts as to the migrating habits and routes of travel of our Pacific Coast migrants.

CHASE LITTLEJOHN AND AMY E. GUNN INTERVIEWING A BABY PUFFIN

Lectures have been given at the monthly meetings, the subjects presented covering interesting features of research on matters ornithological, both in local and foreign fields. The list of speakers, a veritable scientific galaxy, includes Grinnell, Storrer, Bryant, Loomis, Evermann, Maillard, and others. Frequently, lantern illustrations were by cinematographs and slides, taken by members themselves.

Field-trips under the guidance of some local expert have been made at frequent intervals. These trips have proved most attractive, as well as educational, careful notes of each trip being secured by the 'historian' appointed for the day. These are read at the following open meeting of the Association, after which they are printed and filed with the Library records.

The trip of August 3 to the Farallon Islands was of more than passing interest. These Islands lie in the Pacific Ocean, 25 miles off the Golden Gate, and are under the jurisdiction of the Department of Commerce. They are well known as of special ornithological interest, being the nesting-place for ocean-going birds and teeming with bird-life in the breeding-season, and once being a favorite haunt for egg-poachers, as recorded in the encyclopedias. The Federal Government prohibits visitors to the Islands, but, in recognition of the Association's work, honored it as a special guest, taking us to and from the light-house tender. It seemed to the members of the Association that the super-abundance of Western Gulls was probably a factor in the evidently steady

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decrease of the once amazingly abundant Murre population, and that measures for lessening the Gull myriads might be advisable. The Association has also asked the Federal authorities to extend the closed season on the Islands to the end of August, as many young birds and some brooding ones were evidently disturbed and endangered by our visit on August 3. We subscribe, through the National Association, for the magazine, BIRD-LORE, which we place in the hands of every member.—C. B. LASTRETO, *President.*

The Bird Club of Long Island.—During the past year the Club has acquired an additional membership of 159—138 being annual subscribers and 21 life members. This gives the Club a total enrollment of 535, and thus presents a very satisfactory increase over the membership list of the previous year. It may be noted also that the Club is represented in no less than fifty-four localities on Long Island, and has therefore a more extended influence than ever before.

The Treasurer's statement shows receipts, including the balance of last year, in the sum of $1,248.43, leaving a credit on July 1, after the payment of all necessary expenses, of $1,047.64, of which the sum of $780 is represented in an interest-bearing certificate issued by the New York Life Insurance and Trust Company, this amount, however, being for investment by our Finance Committee, and covering life-membership fees, as under a previous ruling of the Executive Committee these are retained and only the income may be applied toward general expenses.

The activities of the Club have been pursued along nearly the same lines as during the previous season. More than 1,000 enamel and linen signs, printed in English and Italian, were posted on trees and fences, threatening all persons with arrest and prosecution who molested birds or destroyed their nests. The public and private schools now enrolled as unit members show a total attendance of some 2,235 children who receive, under the same arrangement as last year, through the National Association of Audubon Societies, such printed matter as it may issue, including leaflets and pictures of bird-life, and thus acquire a knowledge of the usefulness of birds and an interest in their protection. Bird buttons were distributed to the children attending public schools, and also given to the employees on private estates, in order to arouse their sympathy and support and instil in the minds of all, especially those of foreign birth, the fact that birds must not be harmed or injured in any way. A publicity committee of seven was also instituted to collect and publish information and answer inquiries; these are numerous and indicate a widespread desire on the part of many to coöperate in extending the good work which the Club was intended to perform.

A larger membership, however, is desirable in order to provide an adequate income to carry out the useful purposes for which our Club was organized and also permit the Executive Committee to undertake the development of certain

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COL. THEODORE ROOSEVELT, PRESIDENT OF THE LONG ISLAND BIRD CLUB, TALKING WITH CAPT. WM. SPRINKLE, AUDUBON WARDEN AT PASS CHRISTIAN, MISSISSIPPI.

plans in view. It is therefore urged that an active interest may be shown to increase our list of subscribers to at least 1,000, and that our birds may be protected, their wanton destruction checked, and information distributed as to the best methods of attracting them, while their economic value may be taught to the landowner and farmer in every part of our Island. This great service The Bird Club of Long Island is anxious to perform if means are forthcoming from a larger membership to enable it to accomplish those benefits to the community that its limited resources render impossible at this time. With the present scarcity of labor, the necessity of bird-protection becomes more and more evident, and this was never more apparent than at the present moment. —ALICE GREENOUGH TOWNSEND, *Secretary*.

Bird Conservation Club (Maine).—Our Bangor Club, which was started three years ago by a half-dozen ladies who were especially interested in bird-study and conservation, grew rapidly for the first year, and during the last two years has increased more slowly but steadily. Our membership is now 75.

Our activities have not included great undertakings, but we know that we have influenced the sentiment of our community. We have had printed some

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conservation posters, planned to interest and enlighten, and these we have had distributed broadcast over the state, to school-rooms, post-offices, town halls, wherever our members have wandered. Also, we have had printed some cloth reservation posters. These we have used in vicinity of Bangor, where we have persuaded many owners of large estates or woodlands to reserve their property as bird sanctuaries and to forbid all shooting and hunting.

We have communicated with all the granges of our county and distributed much literature to them. Thus we hope to reach the ears and hearts of the farmers, to whom bird-conservation is so important.

We are not allowed to form clubs in the public schools of the city, but we have offered prizes for bird-houses, and the manual training departments of the schools have turned out a great many nesting-boxes which we have assisted the boys and girls to place. The Club itself has placed eight to ten dozen nesting-boxes, and we have been rewarded by many bird tenants—Martins, Bluebirds, Wrens and Tree Swallows.

During the winter months we have fed the winter birds. Last winter several hundreds pounds of suet were placed by the Club and by individual members, as well as large quantities of dry feed for the seed-eating birds. Not many species of birds brave our Maine winters, but Hairy and Downy Woodpeckers, Chickadees, and both White- and Red-breasted Nuthatches were daily pensioners of our bounty, and several other kinds came occasionally to our feeding-stations. We have also been visited by flocks of Pine Grosbeaks, Evening Grosbeaks, Bohemian Waxwings, and Redpolls.

In the last two years our Club has planted nearly a hundred trees in the various parks of the city: fruit-bearing trees, mountain-ash, and wild crab-apple to furnish food for our winter birds, and evergreen trees to furnish them needed shelter.

During the winter we held regular monthly meetings, when we have listened to many interesting papers and discussions. Occasionally we have secured speakers of some note. The meetings have been very well attended. During the spring season, and again in the fall, we have held numerous field meetings, which have been delightful and conducive to increase interest.

We have tried to 'do our bit' by writing letters to our Congressmen in both State and National Legislatures whenever any measures bearing on bird-protection were up for consideration.

We have done something in the past, and we hope to do more in the future. —Alice B. Bowen, *Secretary*.

Birdlovers' Club of Brooklyn (New York).—During the season of 1916-17 the Birdlovers' Club of Brooklyn held monthly meetings from October to May and conducted monthly field trips to Prospect Park under the leadership of members of the Club. Addresses were given on various phases of bird-study and identification in the field by Dr. Edward W. Vietor

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and Edward F. Fleischer. Howard H. Cleaves, of the Staten Island Museum, gave an interesting address on his recent trip to the Virginia coast, with beautiful lantern slides of the bird-life of that region.

The Club sent typewritten letters to all Senators and Representatives at Washington in favor of the Migratory Bird law, and many individual members wrote both Senators and Representatives.

A bird-glass was presented as a prize to the boy or girl doing the most efficient work in bird-study in the Children's Museum. This competition aroused much interest among the school-children in the study of local birds.

The study collections of the Children's Museum Bird-Room were materially increased and improved by a fund of nearly $200 raised by the Birdlovers' Club. These study collections are used continually for intensive study by groups of Audubon members. The Birdlovers' Club maintains, through Doctor E. W. Vietor, a monthly Bulletin, posted in the Brooklyn Museum and in the Children's Museum, of the birds of Prospect Park. Up to the present time the Club has identified a total of 168 species of birds in Prospect Park.

One interesting inquiry came to the Club from Russia, the heart of the war zone, for material on the subject of bird-conservation.—GEORGE O. SCHOONHOVEN, *Secretary.*

Blair County (Pa.) Game, Fish and Forestry Association.—The conservation and propagation work of the Association, as applied to wild birds, was carried forward during the past year in the same effective manner as that of previous years.

Realizing that it is education that forms the common mind, the Association offered prizes to the school-children of the county who would erect bird-boxes and have them first occupied in the spring. The children entered spiritedly into the contest, with results that were countywide. The sum of $25 was appropriated for bird-boxes that were presented to the schools of the county, hundreds of houses being built by the Association on Government specifications and sold broadcast for 25 and 30 cents each, or the bare cost price. The sum of $42 was appropriated and invested in grain, which was carried to all sections of the county during the severe winter months and used to feed game-, song- and insectivorous-birds. The Association also invested $33 in barberry and bayberry trees, planted in selected spots to furnish feed for birds.

The Blair County Club is instrumental in having the county closed to Quail and Ring-necked Pheasants for the 1917 season, and made an earnest effort to have Ruffed Grouse protected for a year, but in this was unsuccessful. Several hundred notices, calling attention to the state law regarding the disturbing of wild birds or their nests, were posted in all parts of the county, and

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several prosecutions were made and convictions secured for the killing of wild birds, with excellent effect on the irresponsible element that causes such destruction. And what is probably most important in the organization's work, it has educated an unthinking public to a point where there is a protective thought for the wild bird.—JOHN H. WINTERS, *President.*

SIGN AND BIRD-BOX ERECTED BY BLAIR COUNTY, PENNSYLVANIA, GAME, FISH AND FORESTRY ASSOCIATION. THOUSANDS OF PEOPLE PASS CLOSE BY THIS SPOT.

Brookline (Mass.) Bird Club.—The report of the Brookline Bird Club for this year might well be a repetition of last year's work. Though the war has stopped the proposed publishing of the work of the Club to date and drawn very heavily upon the time and energy of the Directors, progress can be reported in all lines of effort.

The membership of the Club—nearly 600—is the largest since the organization came into existence.

The lectures and 'round-table talks prove as popular as formerly, and much information and instruction is obtained by those attending. This year, the Directors are endeavoring to develop these meetings so that more members will take an active part and become contributors to it, thus offering an opportunity for questions and the relating of bits of interesting bird-experiences.

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We are especially glad to be able to report that, through the efforts of the Club, Horace Taylor was again engaged to lecture to the children in the public schools. We believe that this will now become a permanent feature of the nature-study work, and the Superintendent of Schools states that an appropriation will be asked for next year to continue this good work.

The Forestry Department of the town, whose activities are closely interwoven with those of the Bird Club, continues its very practical bird-welfare work. Mr. Lacey, the Superintendent and Bird Warden, reports that his sixty feeding-stations, scattered about the town, will be maintained again this coming winter. Permanent, solid shelters are being set up at these stations, and last year's results will justify the expenditure of public money in this manner. The several hundred nesting-boxes which were placed about the town have been reset and many of them located to better advantage. The laws regarding shooting within the town (now a reservation) are well observed, and public sentiment leans strongly toward their enforcement. These all contribute to the very healthy interest in birds and their protection that increases every year, and we are more and more impressed by the real interest displayed by those who are taking up the subject of ornithology as beginners, even among the older people, and how true it is that those once actually interested seldom, if ever, lose this interest.—CHARLES B. FLOYD, *President*.

Brush Hill (Mass.) Bird Club.—The most important move on the part of the Club during the past year was to extend our active membership list so as to include the entire township of Milton; up to last April only residents of the Brush Hill and Blue Hill sections of the town were eligible as active members. This has resulted in bringing in many new members from the more densely settled parts of Milton and has made the Club a town affair, rather than a sectional one.

We had a talk last November by Mr. Floyd, President of the Brookline Bird Club, on the organization of his Club and its activities, municipal or otherwise. During the winter Messrs. Adams, Horton, and Walt F. McMahon, the latter from the National Association of Audubon Societies, gave us illustrated lectures on local topics. In April, when we made the change in the constitution, we had Mr. Baynes give his popular illustrated lecture at the Town Hall.

During the past two years we have prosecuted a vigorous campaign against the English Sparrow, hiring an employee of the State Fish and Game Commission to exterminate these birds wherever possible in our section of the town. This was made possible by the coöperation of the Board of Selectmen, who appointed him a special officer, with permission to shoot anywhere on the public land of the town. We obtained written permits from most of the landowners in our section. As a result, over 1,600 Sparrows were shot last year and over 600 the year before, when we instituted the plan and had but a short time to act. This almost exterminates the local flocks, but the fact that their places

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are taken every fall by migrations from the neighboring cities makes a yearly campaign necessary.

Our business manager, Dr. Harris Kennedy, secured a good collection of the skins of common perching birds of this neighborhood last spring, and has had them preserved in individual celluloid tubes which are unbreakable, hermetically sealed, but perfectly transparent. These are to be used as a circulating library by members of the Club, for study or reference, as the case may be. The collection was purchased by means of a fund collected from some of the Club's members for that purpose.

Naturally, the war has made itself felt here, and there has been a very noticeable slackening of interest among the Club members. We hope, however, that we can keep the organization running fairly strong despite this fact. We are about to start a 'fall drive' in the town in an attempt to materially increase our active membership.—NATHAN CHANDLER FOOT, *President.*

Buffalo (N. Y.) Audubon Society.—The eighth year of this organization closed May 18, 1917, with a paid-up membership of 264. There were four meetings of the Society and six meetings of the Executive Committee for the transaction of business during the year.

Through the courtesy of Henry R. Howland, Superintendent of Natural Sciences, cards of admission to four lectures were sent to each member. The lectures of the year were as follows: October 16, Mrs. S. Louise Patterson; November 23, Ernest Harold Baynes; December 5, Edward C. Avery; December 8, T. Gilbert Pearson; February 24, Guy A. Bailey; March 23, Dr. Arthur A. Allen; March 30, Clinton G. Abbot; May 18, Clinton E. Kellogg.

For the second year the Audubon Society furnished money to pay dues to make each boy and girl on the Cattaraugus Indian Reservation a member of a Junior Audubon Circle. Membership in the National Association of Audubon Societies and in the Erie County Society for the Prevention of Cruelty to Animals was continued.

The financial report of the year ending May 18, 1917, follows: Receipts, $932.28; disbursements, $629.65. On hand, May 18, $302.63. To this will be added more than $50 from 'Notes of the Audubon Society,' published in the *Express*, not yet paid in. The Bird Almanac netted the Society $68.71. The copies that remain unsold may be obtained free from Miss Mary Ellis, 763 Bird Avenue, by members of the Society or by teachers who have formed Junior Audubon Circles. The postage is 5 cents for Buffalo. For the seventh year 'Notes of the Audubon Society' have (since March 8) appeared weekly in the *Illustrated Sunday Express*. One-half value of published articles is returned to the writers. The Junior Audubon work is very prosperous. The Director, Miss Mary Ellis, is untiring in the work; and as many Circles have been formed during this as in past years. The Migration Calendars in the *Express* have been in charge of Miss Caroline L. Doll, whose efficient service is appreciated by

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many readers in western New York. At the direction of the Executive Committee, the Secretary prepared an article on 'How to begin Bird Study,' and mailed it to twelve newspapers in Erie County, outside of Buffalo. Copies of papers containing the printed article were returned by the publishers to the Secretary.

Four bird identification walks, free to members of the Audubon Society, were conducted by the Secretary in May. Nineteen bird talks were given by members during the year, under the auspices of the Society: C. B. Hersey gave three, H. C. DeGroat gave two, and the Secretary gave fourteen. Ten new lantern-slides have been added to the set owned by the Society. There are now sixty-five slides, all in perfect condition. Seven members of our Society were sustaining members of the National Association of Audubon Societies the past year. The Tri-State Bird Contest for 1916 was won by western New York. Owing to the much-regretted death of Rev. Reuben F. Randolph, who originated the Tri-State Contests, a challenge from New York has not been accepted for 1917.

The past year has furnished an opportunity to every member of the Society to help further protective legislation. Calls were received as follows: August, 1916, to protest against an extension of an open season on wild-fowl in any part of the county; September, 1916, to help save Lake Malheur, Ore., as a bird reservation; February, 1917, to help in passing the Migratory Bird Treaty Act; March, 1917, to endorse the State Legislature imposing a tax on cats. The response of members to these calls for help have been most gratifying.

Realizing the need of educating the general public regarding bird helpfulness to man, bird laws, and how to have laws enforced, 25,000 copies of a circular fully explaining these points have been printed and distributed in more than 100 schools of Buffalo and western New York. Additional circulars are in the hands of the Secretary, Miss C. A. Doll, 587 Ellicott Street. Upon request they will be sent, to the number of 100 or less, to persons or places where they would be helpful. Members are asked to give thought to this offer. A special meeting of the Audubon Society, held May 5, led to a change in the administration of the affairs of the Society. At the annual meeting of May 18 a new constitution was adopted. Officers and Directors were elected as follows: President, Dr. Channing E. Beach; Vice-President, Dr. Anne E. Perkins; Secretary, Miss Caroline L. Doll; Treasurer, Miss Harriet S. Baker; Directors, Miss Mary Ellis, James Savage, J. M. Overfield, Jr. According to the new constitution of the Society, the annual meetings are to be held the third week in February. Dues are payable (in advance) March 1 of each year.

The Secretary has received a most courteous response from all newspapers when requested to give publicity. The appreciation of the Society is due to our printer, Charles M. Nicholson, of 84 Ellicott Street, for the interest he has, for seven years, shown in rendering prompt and accurate service at a very moderate price. In closing a service of eight years, on account of the removal of

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COVER OF A LARGE BIRD CALENDAR ISSUED BY THE BUFFALO AUDUBON SOCIETY

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her home from Buffalo to Riverside, Cal., your Secretary desires to express her sincere appreciation to the Society for the freedom that has been permitted her; for the confidence shown in her; for the loyal responses to her many requests for assistance; for the many kind words expressed; and for the goodly amount of work accomplished through the united efforts of the members. Under the new officers, with its large membership, healthy bank account, and a splendid foundation on which to build, the Audubon Society of Buffalo should render additional service to its members and to its larger field of work—all western New York.—MRS. G. M. TURNER, *Retiring Secretary.*

Burroughs Junior Audubon Society (Kingston, N. Y.).—Our Society was organized in the fall of 1915 with about 80 members. Each year new members have been added. Our meetings have been held monthly, at which time different birds, their habits, etc., were discussed. During the past year we visited John Burroughs, the naturalist, at his home in West Park, N. Y., saw and inspected 'Slabsides' and enjoyed a most profitable experience. Mr. Burroughs himself was a guest at one of our meetings and told many interesting stories of his acquaintance with birds. His granddaughter is a member of our Club, and this week was elected Secretary.

Last February we hired Edward Avis to give his lecture-recital 'Birdland.' This was illustrated with stereopticon-views, and various birdcalls were given by him. With the proceeds of this lecture we purchased several additional books for the bird library, Victrola bird-records, field-glasses, bird-houses, etc. Some of the boys are making feeding-stations now for the coming winter. Just before school closed we donated $30 to the Red Cross.

Last April, on State Bird Day, we gave the little playlet which was published in BIRD-LORE, in the school assembly.

We are trying to create a wider interest in birds and hope to make the coming year the most successful one we have had.—(Miss) JENNIE H. MAUTERSTOCK, *President* (*Honorary*).

Cayuga (N.'Y.) Bird Club.—Seven morning trips for the study of birds completed the fourth successful year of the Cayuga Bird Club. These trips were held in the Bird Club Sanctuary Saturday mornings, from April to June, and were well attended, requiring three or four sections each morning. L. A. Fuertes, A. A. Allen, Mrs. A. A. Allen, and C. W. Leister acted as leaders, and, owing to the retarded vegetation, unusual numbers of birds were seen.

The number of public lectures was this year reduced, but the activities of the Club in other ways surpassed previous years. The annual Field-Day, usually held in the Bird Club Sanctuary, was this year altered so that the Club might coöperate with the city authorities in the establishment of a new park in Six-Mile Creek Glen. Benefiting by their previous experience in the Sanctuary, the 700 or 800 school-children ably assisted in the building of the

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DEDICATING THE ARCH AT THE ENTRANCE OF THE CAYUGA BIRD CLUB SANCTUARY.
Photograph by A. A. Allen.

paths, the clearing of brush, and the planting of wild flowers in this new park. The Bird Club, with the help of Mr. Bush, the manual-training instructor, instituted a bird-house competition in which about 75 boys took part. Excellent nesting-boxes were built by the boys, and these were put up in the new park as one feature of the exercises.

Another successful enterprise with which the Cayuga Bird Club coöperated was the establishment of a program of wild-life conservation in connection with

RUSTIC BRIDGE AND FEEDING-ARCH, CAYUGA BIRD SANCTUARY.
Photograph by A. A. Allen.

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Farmers' Week at Cornell University. The program consisted of a series of lectures by eminent authorities in the various fields of wild-life conservation and an elaborate exhibit, and was concluded by a banquet tendered to the visiting conservationists. It is planned that this program shall become a permanent feature of the annual gathering of the farmers of the state at the State College of Agriculture at Cornell University.

LOUIS AGASSIZ FUERTES AT THE FUERTES ARCH ENTRANCE OF CAYUGA BIRD CLUB SANCTUARY
Photograph by A. A. Allen.

Equally successful was the movement to construct a suitable arch at he entrance to the Bird Club Sanctuary. A concrete arch was designed by President Fuertes, and funds for its construction raised by public subscription. The ground had been prepared for it on the previous annual Field-Day, when the children, with great eagerness, had placed their names in a steel box to be incorporated in the foundation of the arch. Upon the completion of the arch,

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appropriate dedication exercises were held, and the arch, which had been concealed by large American flags, was unveiled.

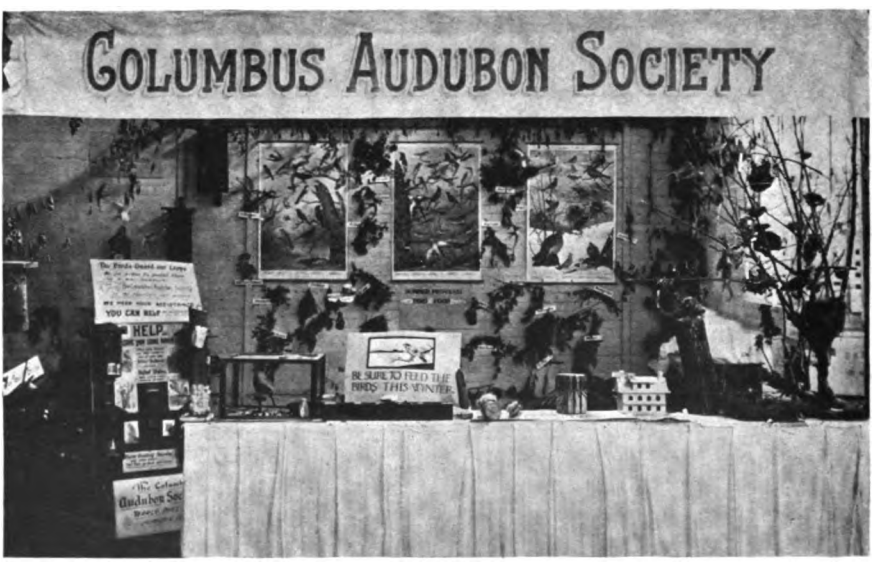
The usual work of feeding the birds in winter was carried on by the Club in its Sanctuary, and several hundred pounds of grain were given to the Ducks on Cayuga Lake. Through the generosity of James S. Taylor, a rustic feeding arch, similar to the one erected near the rustic bridge in the Sanctuary, was placed in the city cemetery, and this will henceforth be maintained.

Upon the resignation of the Treasurer, Mrs. S. A. Munford, because of leaving the city, a vote of appreciation for her efficient services was extended to her. Mrs. A. A. Allen was elected to the vacancy. The officers of the club are: Hon. President, Dr. Andrew D. White; President, L. A. Fuertes; Vice-Presidents, Mrs. J. H. Comstock, Mrs. A. W. Smith, W. D. Funkhouser; Secretary, Dr. A. A. Allen; Treasurer, Mrs. A. A. Allen.—A. A. ALLEN, *Secretary*.

Columbus (Ohio) Audubon Society.—Beginning in October with a very successful bird-protective exhibit at the Public Library, the Columbus Audubon Society has held a meeting each month. Three illustrated lectures were given. Sixteen field-trips have been taken, and $150 worth of prizes were distributed in the bird-house contest in March.

In January, Ernest H. Baynes lectured on 'How to Attract Wild Birds.' In February, Prof. Lynds Jones talked of the 'Value of the Quail to the Farmer.' At the beginning of the garden season Prof. Hobert Osborn, of the Ohio State University, lectured on the relation of birds to injurious insects.

During the Bird Exhibit 39 new names were added to the membership.



BIRD EXHIBIT OF THE COLUMBUS, OHIO AUDUBON SOCIETY.

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Over 90 people joined the Club at the time of Mr. Baynes' lecture. The field-trips have been the means of attracting 35 more, making an addition of 171 new members.

Among the 3,000 visitors to the October Exhibit were about 400 students from the State School for Deaf Mutes. These children eagerly grasped everything explained to them. They afterward wrote creditable essays on what they had seen, some of them closing with "I wish to hear the song of birds." Many pupils and teachers from the State School for the Blind attended Mr. Baynes' lecture and are planning to make bird-houses for the next contest.

Space was given the Audubon Society for an exhibit at the State Fair in August, in order to reach the farmers. The farmers showed more appreciation of the display of birds and their nests, weed seeds, winter foods, etc., than did the city people. One country woman remarked, reminiscently, "Oh, yes, I know the Quail; he hollers nice." The men were glad to get the National Association's 'war' posters to put up on their farms. Many of them told of feeding the winter birds. People from nearby towns asked for information about starting bird clubs and were interested in the bird books displayed. Besides the 'war' posters given out to the farmers, the Boy Scouts put up numbers of them in the parks and surrounding country.—LUCY B. STONE, *Secretary.*

Cumberland County (Maine) Audubon Society.—November 3, 1916, in the first snowstorm of the season, a little band of seven people gathered at the Natural History Rooms to form a society for the study and protection of the birds. Though small in number, the enthusiasm was great. Those present were made a committee of the whole to obtain new members, and though not yet a year old, we have an active membership of 107. We met once a month until June, when outdoor walks took the place of indoor meetings.

On January 7, Arthur H. Norton, the well-known ornithologist of our own city, gave an illustrated talk on 'The Mockingbird' that was wintering in one of our parks. In February, letters were sent to our Congressmen in regard to the Migratory Bird Treaty, and replies from them, promising their support, were received. In April, Ernest Harold Baynes gave us a much-enjoyed lecture, and in May, Mr. Bisbee, of our own city, gave us an illustrated lecture.

No 'war' bird posters have been put up as yet, but we are now working for that, as well as arranging for the winter feeding of the birds. We have all enjoyed the work and meetings, and feel that a foundation has been laid for much good work in the future. Our later reports will prove if this be so and if we are doing our part to keep the birds with us.—ADA ODIORNE FOGG, *President.*

Detroit (Mich.) Audubon Society.—The Detroit Audubon Society was organized May 8, 1916, at the home of Mrs. Edward F. Rush, who became the Society's most efficient Secretary. The program for the winter included an

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interesting lecture by J. H. McGillvray, of the Public Domain, on 'Forestry and Birds.' A fine series of slides illustrated the work the Game Commission and the Forest Scouts are doing in the state. The Society joined with the Conservation Department of the Federation of Women's Clubs in holding an exhibit of bird-houses and bird-shelters made by the boys of the manual training classes of the public schools. A beautifully illustrated talk on shore-birds was given by G. L. Abbott, of Grosse Pointe Shores, at this time.

Field-outings were held during the months of October, November, and December. The Chairman of the Field Committee, Mrs. F. W. Robinson, secured the coöperation of the Commissioner of Parks and Boulevards in an effort to feed the birds on Belle Isle during the winter. Two shelters were built at his direction and placed in locations chosen by the Committee. The result was a decided increase in the number of winter birds on Belle Isle. The children of the Junior Leagues made weekly trips all winter to carry food for the birds. On February 10 they found a Bluebird feeding, making the earliest Bluebird record for Detroit, so far as we know.

Six Junior Leagues, with an enrollment of 174, were organized by Miss Gertrude Gilmore, Chairman of the Junior Leagues Committee. Two new Leagues and many new members have been added this fall. This work was begun in the school-gardens of the city.

The Detroit Audubon Society responded to the call to help save the Migratory Bird Law from ruin.

Nicholas Woods, of the Game Committee, had the Michigan state law relating to birds translated into several languages and posted in the foreign districts. The President has given twenty-five talks, most of them with slides, before schools, libraries, and clubs. Much interest and enthusiasm for birds and their protection has been shown, especially among the school-children.—Mrs. Jefferson Butler, *President.*

Doylestown (Pa.) Nature Club.—The Doylestown Nature Club has increased in membership and activities to a marked degree since the report sent to the National Association of Audubon Societies last October. Our membership now numbers 167. At the regular meetings which take place on the second and fourth Mondays in the month, the following subjects were studied and presented: The Wind in Poetry, Water Fowl, A Study of Roots, Ferns in their Native Haunts, Emerson as a Poet of Nature, Luminosity of Insects and Other Organisms, Poisonous Plants, Birds of Prey, Nature's Highways and Byways, Seed Travelers, Wonders of the Sea, Serpents, A Symposium, Nature's Calendar. A talk on 'Sweet Peas up to Date,' was given among a thousand hybridized sweet peas at W. Atlee Burpee's Seed Farm, Doylestown, in June by the sweet pea expert, George W. Kerr.

C. F. Choffner, founder of the Liberty Bell Bird Club, gave a stereopticon lecture on the value of birds in the public school, to which the school children

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were invited. An illustrated lecture on the constellations was given by William Henry Frome in the open on a perfectly clear moonlight night in July. A huge screen was erected in a field on a hill on which the pictures were plainly seen after dark, the members being seated on the ground. At the conclusion of the lecture, thirteen brave members slept on straw under the open sky, along the Neshaminy Creek, at Dark Hollow, a place rich in Indian legends, remote from the habitations of men, with a mangy dog and a flash-light for protection. By a huge campfire, a midnight feast was prepared, also a 5 o'clock breakfast the next morning. Dr. Edward William Geil, the

A VIEW IN THE BIRD SANCTUARY OF THE DOYLESTOWN, PA., NATURE CLUB.

noted traveler and lecturer, will give a talk before the Nature Club in January on 'Ants and Ant Hills.' Dr. Henry C. Mercer, of Moravian Pottery fame, is booked for the lecture on 'Historic Trees,' in November. Most of the Club's lectures are given in the public school to create an interest among the pupils in nature studies. The Nature Club for two years has made a plea for the protection of wild flowers by posting notices along the roads. May 12, the annual sunrise walk, to study the migration of Warblers, was enjoyed by 50 members, with a gypsy breakfast afterward in the woods at 6 o'clock. For nine years, the Nature Club has been taking these sunrise walks, and no matter what the condition of the weather at 4 A.M., a large percentage of the members has been ready to start at that time.

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The annual canal-boat trip was taken Saturday, September 22, with 76 people on board. The route, from New Hope to Point Pleasant, Pa., along the Delaware Valley, was most interesting, abounding in fall flowers, ferns and beautiful grasses on the banks of the canal, and attractive bungalow homes lent much interest to the scene. While an informal talk on 'Rock Formation,' a Victrola and ukulele music varied the monotony of speed-locomotion by mules.

We have indorsed every bill presented relating to bird-protection. Efforts have been made to have an ordinance in Doylestown taxing pet cats and eliminating stray ones in the interest of birds, but the Club has only been able so far to agitate the matter through the press and create more of a sentiment for

A CANAL-BOAT TRIP OF THE DOYLESTOWN, PENNSYLVANIA, NATURE CLUB.

bird-protection. The Bird Sanctuary of the Nature Club is situated at Fonthill, the estate of Dr. Henry C. Mercer, and comprises 10 acres. A third of it is wooded, with plenty of water, and berries, fruits and weeds allowed to grow wild for bird-food. Many bird-boxes, for nests, and feeding-boxes are placed in appropriate places, and in winter systematic feeding of the birds is done. An old stone house built in 1755, situated in the heart of the Bird Sanctuary, has been loaned to the Nature Club by Dr. Mercer, and a museum of natural science has been started there with many interesting specimens.—ELIZABETH F. JAMES, *Secretary*.

Englewood (New Jersey) Bird Club.—Last April the Englewood Bird Club entered the third year of its activities with a large membership, one-third of which is Junior—that is, under eighteen years of age.

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During the past months men of reputation in the bird world have inspired us. Among them, Charles C. Gorst, of Cambridge, Mass., by his remarkable imitations of bird-songs; Howard H. Cleaves by his 'Experiences in Wild Bird Photography;' Herbert K. Job, by his helpful talk and wonderful motion-pictures; and Mrs. Mabel Osgood Wright, who pointed to us the way of 'The Making of a Bird Sanctuary.'

From time to time letters have been written our Congressmen relative to the passage of such bills as the Migratory Bird Treaty Act, the Cat License Bill, etc., in the good cause of bird-conservation.

A specially delightful feature of the spring was a series of bird-walks under the competent leadership of Howard H. Cleaves of the Staten Island Museum, Charles H. Rogers of the American Museum of Natural History, and others. When nearly 40 members tumble out of bed to meet at a remote station of the town at 6 A. M., the enthusiasm may be taken for granted, but—(*addendum*) —Dr. Frank M. Chapman was our leader!

Recently the following officers were elected: President, Dr. Frank M. Chapman; Vice-President, William M. Shackford; Secretary, Miss Irene A. Hackett; Treasurer, Howard Barton.—(Miss) ELIZABETH A. DANA, *Secretary*.

Forest Hills Gardens (N. Y.) Audubon Society.—A noticeable increase in the number and variety of the birds visiting the Gardens and remaining there to make their nests is the most important thing to record for the spring and summer of 1917. It is believed that this increase is due to the fact that in Forest Park the underbrush has been cleared away and the natural cover so destroyed that the birds have taken refuge in the Gardens where the shrubbery has grown rapidly and where there is abundant food, water and protection. Only the vagrant cat remains a problem, especially to the little, low-nesting birds.

The Society lost its efficient President, E. A. Quarles, and gained a genuine bird- and nature-lover and knower in Fritz Hagens. Two lectures, one by Neil Morrow Ladd, President of the Greenwich Bird Protection Association, and one by Mr. Button of the State College of Agriculture, N. Y., were given during the year. But the main efforts of the Society were concentrated on an exhibit of local birds which was held during the Easter holidays at the schoolhouse. Besides the specimens of stuffed birds, there were charts and other educational matter loaned by the American Museum of Natural History, the Children's Museum of Brooklyn, and the National Audubon Society. Some one of the trustees was in charge each day, and each afternoon there was some sort of entertainment. One day Mrs. Schoonover, from the Children's Museum of Brooklyn, gave a talk, and another time the Garden Society gave a copy of Reed's 'Bird Guide' to the boy and girl able to name the most birds out of a possible list of twenty-five.

A feature of our work which is continuous throughout the year is the

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lamp-post bulletins which give items of bird news and show appropriate pictures.

The Society made a particular effort to provide adequate winter feeding during the early spring snow- and sleet-storms which meant starvation and death to the birds unfortunate enough to be caught at that season. It also distributed free 100 pounds of chick-feed, and at different times put out 15 pounds of suet in especially designed wire baskets.—MARY EASTWOOD KNEVELS, *Secretary*.

Frankfort (Ky.) Bird Club.—Our Club was organized in July, 1916, following a lecture by Ernest Harold Baynes. In October, Mrs. McBrayer Moore, President of the Bird Club of Versailles, Ky., a neighboring town, came before the Club and gave an interesting talk on the different characteristics of birds, as well as on the separate functions of the wings, tail, feet, and bill of a bird. Mrs. Elizabeth King Smith, of Lexington, Ky., addressed the Club in January of this year, telling her experiences with birds during the last fifteen years. In April, another speaker from Lexington, Mrs. W. L. Maclain, gave an interesting talk on the songs of birds.

Last winter many persons became interested in feeding the birds during snowy weather, due largely to a campaign waged in the interest of the feathery tribe by members of the Club and by friendly newspaper articles. The Boy Scouts put out a good many seeds. The school-children in general were much interested, and a feeding-station was established in the cemetery.

Several bird-walks were conducted by older members of the Club for the Junior members, and many of the children taking manual training made bird-houses. Audubon buttons and printed matter on birds were furnished each Junior member. Another Bird Club was organized by a member of the Frankfort Club, a teacher in a suburban school, and all the pupils evinced much interest.

At one time in the late winter, while snow was still on the ground, large flocks of Robins arrived in Frankfort, and several bird-lovers entertained literally hundreds in their back yards for several days. One member of the Club solved the problem of how to take care of the birds when the snow was on the ground in January, by sweeping the snow from the roof and sill of her library bay-window, which was directly below the sill of an upstairs window, and filling the window-sill and roof with bread-crumbs, hominy, rice, and hemp seed. The ground-feeders were not forgotten and reveled in all the bird-seed they could eat, feeding on a snow-cleared path. She reported the following birds as her visitors: a Blackbird, Crow, Yellow-hammer, Chewink, Blue Jay, Mocking-bird, several Cardinals, Tomtits, Chickadees, Fox Sparrows, Woodpeckers. Juncos, and the ubiquitous English Sparrows.—HARRY G. BRIGHT, *Secretary*

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Glenville (W. Va.) Normal Bird Club.—Our Club was officially organized March 30, 1917. We have an enrollment of 52 members, and at least 30 of these are young teachers, while a large majority of the rest expect to teach.

During the last five years we have studied birds in connection with a Nature-study Course offered in the Normal School. A study of birds is required of all Nature-study students and comprises nearly one-third of the course.

Beginning in the early spring and continuing until sometime in June, we make two bird-study trips every Saturday morning. The first group starts at 5.30 and the second one at 8 o'clock. These trips are under the guidance of the biology teacher, E. R. Grose, who is a most efficient student of birds.

Last winter there were four feeding-boxes put up by members of our Club, and two of these were so arranged as to be seen from the windows of the Training School.

Miss Ina Barnes, Supervisor of Training, contemplates organizing a Junior Bird Club in the Training School this year.

Our Club has ordered a number of the cloth 'Warning Notices' and is going to post them about our town and in the rural community surrounding it. We feel that many people take no action against the mistreatment of birds through sheer ignorance of the law concerning them.

We have also distributed the following publications of the National Association of Audubon Societies among our members: 'Audubon Movement,' 'Formation of Bird Clubs and Audubon Societies,' 'Women and the Birds,' and 'Cemeteries as Bird Sanctuaries.'—EDGAR I. HATFIELD, *President.*

Hartford (Conn.) Bird-Study Club.—The past season has been a busy one for the members of our Club, as a copy of our Year Book will indicate. We have held twenty-four indoor meetings and twenty field meetings. Despite the number of persons engaged in the great war's activities, our average attendance at both indoor and outdoor meetings has been good. As heretofore, the greater part of talent for our indoor meetings has been supplied by our own members. During the season, however, we have been favored with illustrated lectures by Charles Crawford Gorst and Clinton G. Abbott, which were largely attended and much enjoyed.

Many rare and unusual birds have been seen on our outings, among which might be mentioned the Little Blue Heron, Whistling Swan, Widgeon, Gadwall and Canvasback Ducks, White-rumped and Pectoral Sandpipers, Golden and Black-bellied Plover, Pileated Woodpecker, Snowflake, Evening Grosbeak, both varieties of Crossbills, and Connecticut Warbler. On one of our field-trips we were privileged to see a female Worm-eating Warbler on her nest within a few feet of us, and located not 60 feet from the nest of a Whip-poor-will. The nest of a Rough-winged Swallow was also observed.

Over 40 pounds of bird-seed have been fed at one windowsill feeding-tray

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to a flock of Evening Grosbeaks—the location being in the city where houses are close together.

The Club drew up and presented to our last Legislature what it considered a model cat license bill, but was unsuccessful in having it enacted as a law. We are not discouraged, however, and shall make another effort at our next legislative session to have the bill become a law. Largely through the efforts of our Club, a joint field meeting was held in May of this year at 'Birdcraft Sanctuary,' Fairfield, at which meeting twenty different nature clubs were represented by upward of 300 people. At this meeting the Connecticut Federation of Bird and Nature Clubs was formed and a constitution adopted. This Federation had been in process of completion for nearly five years.

Our Club is now planning the organization of junior departments for the benefit of the younger people located in the many suburbs of Hartford, in order that meetings may be held in close proximity to the homes of the children, with the idea in mind that to preserve the bird-life of the future we must cultivate the junior nature-lover of today along the right lines. Many bird-boxes have been erected by Club members during the year, with varied success. Personally, I have had nesting in my front yard four varieties of birds, within an area of 50 feet square, in boxes which I erected for their use.

We would appreciate suggestions from anybody who may be interested concerning the organization and operation of junior departments above referred to.—ARTHUR POWERS, *President.*

Los Angeles (Cal.) Audubon Society.—The activities of the Los Angeles Audubon Society have been directed the past year along the lines of the economic value of birds. We have been addressed by the following speakers: Mrs. Wm. Folger, past President of the North Dakota Audubon Society; Dr. L. B. Bishop, of New Haven, Conn.; Mrs. Hatch, of Imperial Valley; Mrs. H. D. Moore, of Seattle; Dr. Mary Hart, of Alaska; Mrs. Charles A. Wiley, of the Forestry Department; Prof. Alfred Cookman, of Long Beach; Dr. Emily Hunt, Pasadena; and Mrs. G. H. Schneider, one of our own members, and now holding the office of 'official speaker' of our society, who reported active bird work among the Boy Scouts, schools, clubs, etc.

We have had, besides the indoor meetings, nine field-day trips to beaches and cañons, and one reciprocity program for women's clubs in the District Federation. A charming playet, 'The California Woodpeckers' Convention,' was given. It was written by our able President, Mrs. F. T. Bicknell, and Mrs. Robert Fargo. We have created the new offices of Official Speaker, Custodian, District Federation Secretary, Historian, and District Press Chairman. Our President has been appointed District Chairman of Birds, and our honorary member, Mrs. Harriet Williams Myers, Chairman of the National Federation.

At each indoor meeting we have had interesting reports of the birds seen at

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LOS ANGELES AUDUBON MEMBERS STUDYING THE TULE WREN AT DOMINGUEZ SLOUGH.
Photograph by Mrs. F. T. Bicknell.

the previous field-day; have held nine Board meetings through the year; have had our annual pilgrimage to Fellowship Hill, and the usual day in June with the Pasadena Society, as their guests. We are working hard to secure a cat license for our city. We have been able to secure protection for water-birds at Silver Lake, near Los Angeles. In legislative work we have helped secure pro-

A LOS ANGELES AUDUBON MEMBER POSTING ONE OF THE NATIONAL ASSOCIATION'S "WAR" NOTICES IN THE CLEVELAND FOREST RESERVE IN THE SAN JACINTO MOUNTAINS, CALIFORNIA.

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MRS. F. T. BICKNELL,
President of the Los Angeles Audubon Society

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tection for Blackbirds, Meadowlarks and Flickers, and the amendment to the hunting license limiting the age of applicants to not less than fourteen years.

We have had notices of meetings posted in all libraries and have joined with the Pasadena Society and all interested in birds and formed an 'Audubon Council' at which, after an enjoyable luncheon, we discuss all Audubon matters and find this of material benefit.

At the State Federation Meeting of Women's Clubs in Pasadena, our Society participated, and on request furnished an attractive exhibit of a mounted black cat, amid trees and shrubs, holding an Oriole in its mouth, and a nearby poster announced it to be 'The Birds' Worst Enemy.'

We have added a number of rare mounted birds to our Museum—birds found disabled or dead—and have also secured over $150 to build a bird fountain in Exposition Park. The President has had over five dozen 'war posters' put up during the summer. During the field-trips, and 'trail' trips conducted through the summer, there have been observed 125 species and 4,316 individual birds.—(Mrs.) GEORGE H. CRANE, *Corresponding Secretary.*

Maywood (Ill.) Bird Club.—Our Club was organized March 6, 1917, at the home of Samuel A. Harper, its founder and President. An able lawyer, a successful business man, a social worker, two women active in club and civic affairs, a minister, and a grade school principal compose its directorate. Active membership numbers a few less than 100 persons. Meetings are held in the village hall. The Club is a sustaining member of the National Association of Audubon Societies and a contributing member of the Illinois Audubon Society.

As a mark of recognition, the Club has elected to honorary membership three sons of Illinois who have attained eminence as ornithologists: Robert Ridgway, Benjamin T. Gault, and Ruthven Deane. Other honorary members are the presidents of the village School and Library Boards, and the teachers of Junior Audubon Classes in Maywood and Melrose Park schools.

The Club printed and distributed two circulars containing information about nesting-boxes and the security of their tenants from cats and English Sparrows. Copies of articles on the protection and encouragement of birds were distributed at meetings, village ordinances relating to these matters were reprinted in the local papers, and items on the Club and its work and on the cat were contributed. At the request of the Club, Dr. W. A. Evans wrote, in the Chicago *Tribune*, a health article on cats entitled, 'Cats Only a Menace.' Ten copies of the Biological Survey poster, 'Feed the Birds This Winter,' were displayed as soon as they came off the press. The Maywood Public Library is adding a few bird books each month, selecting titles from a list submitted by the Club.

This spring, the Maywood Twentieth Century Club offered prizes to school-children for the best three essays on birds written by girls and for the best

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three nesting-boxes made by boys. The contest was a great success. The Bird Club will urge the women to hold this contest each spring. Supplementing this, the Maywood Bird Club fostered the making of nesting-boxes by the boys during and after school hours. Over night, it seemed, bird-boxes grew on trees and posts and buildings everywhere until there were more houses than bird families.

Maywood now has a model cat ordinance, framed by the Club and passed by the unanimous vote of the village Board. The opposition, by a futile petition to the Circuit Court to enjoin the village Board from enforcing the ordinance, gave it statewide publicity and thereby made it a precedent. Being based on the law relating to public nuisances, it declares stray and unrestrained cats to be a source of damage to gardens and a menace to public health and bird-life. It provides for the killing of all stray cats and the confinement of all other cats between 7 P. M. and 9 A. M. every day from April 1 to September 30, inclusive. All persons are given the right to kill any and all cats trespassing on their premises. Fines are imposed for violations. The Maywood Bird Club asked the Illinois Audubon Society to assume the responsibility of securing an amendment to the Illinois statutes which will enable villages and cities to pass ordinances compelling the licensing of cats.

April 3 is now a red-letter day in Maywood. This spring it was John Burroughs' eightieth birthday. On that day, in honor of Burroughs and Audubon, the Club organized Junior Audubon Classes and created the Burroughs Association of Junior Audubon Classes as a department of the Club through which to assist them. When school closed in June, 12 classes, with an enrollment of 330 children, had been organized. The Club is now putting the matter before each of the remaining 50 teachers with the hope that every school-boy and girl in Maywood and Melrose Park will soon be wearing a button with a Robin on it. As protection and encouragement naturally follow enlightenment on bird-life, and as bird-lore greatly adds to the joy of living, the Club considers the organization and moral and material support of these classes of first importance. —ROY M. LANGDON, *Secretary.*

Meriden (N. H.) Bird Club.—Our Club began the year by issuing its Third Annual Report. This document is in the form of a book containing 114 pages and 32 half-tone illustrations from photographs. The following important letters, recently received by our General Manager, also appear in the Report:

MY DEAR MR. BAYNES:

I have heard with sincere interest of your campaign in behalf of American birds, and want to give myself the pleasure of expressing my great interest and of wishing you the most substantial success. Cordially yours,

(Signed) WOODROW WILSON.

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MY DEAR MR. BAYNES:

I wish you all possible success in your movement. Few things mean more for the attractiveness and beauty of the country life than the establishment of these bird clubs, and this entirely apart from their general utilitarian significance.

The Meriden Bird Club has been an example of inspiration to all of us, and I earnestly hope its example will be followed throughout the country.

Sincerely yours, (Signed) THEODORE ROOSEVELT.

Through our influence, bird clubs have been formed recently in Topeka, Kans.; San Antonio, Texas; Yonkers and Millbrook, N. Y.; Northfield, Bradford, and Lunenburg, Mass.; and at Wellesley College; and many clubs previously organized have been persuaded to join the National Association of Audubon Societies.

The Club has had interesting lectures by Herbert K. Job, Robert Cushman Murphy, Henry Oldys, Lawrence Smith, and Ernest Harold Baynes.

The students and faculty of Kimball Union Academy have shown unusual interest in our work this year, and the senior class has pledged itself to support the Bird Club in every possible way.

For the third successive year, the Congregational Church at Meriden recognized 'Bird Sunday.' Services were held in the Sanctuary as usual, and Mr. Baynes delivered a sermon on 'Our Bird Allies in the World's War.' Mr. Wilfred Barnes furnished violin music, and the pastor, Rev. Noble O. Bowlby, conducted the service. The offering was divided between the Church and the Bird Club.

In August, the Ben Greet Players gave two performances of 'As you Like It' on the stage in the Sanctuary, and the Club made a net profit of $85.

In September, the General Manager delivered a lecture for the benefit of the local branch of the Red Cross Society.

'Sanctuary Day' was held on Monday, October 8, and sixteen women, sixteen men, and two horses worked in the Sanctuary with a view of making it more attractive, both to the bird tenants and their human visitors.

Our members have put up thirteen war posters supplied by the National Association of Audubon Societies.—(Miss) ELIZABETH BENNETT, *Secretary*.

Minneapolis Branch, Minnesota Game-Protective League.—Most of the work being done by the Minneapolis Branch is more or less a duplication of the work done during 1916.

Briefly, the new work accomplished by our League the past year is as follows: During the last session of the Legislature, eleven out of twelve bills in which we were interested were passed. Among the most important of these were: A close season on the Ruffed Grouse for three years; the cutting in half of the open season and bag limits on Prairie Chickens or Pinnated Grouse, Sharp-tailed Grouse and Quail; stopping of shooting from automobiles; an Alien Gun Law similar to that in force in the State of Pennsylvania; the age-limit taken from

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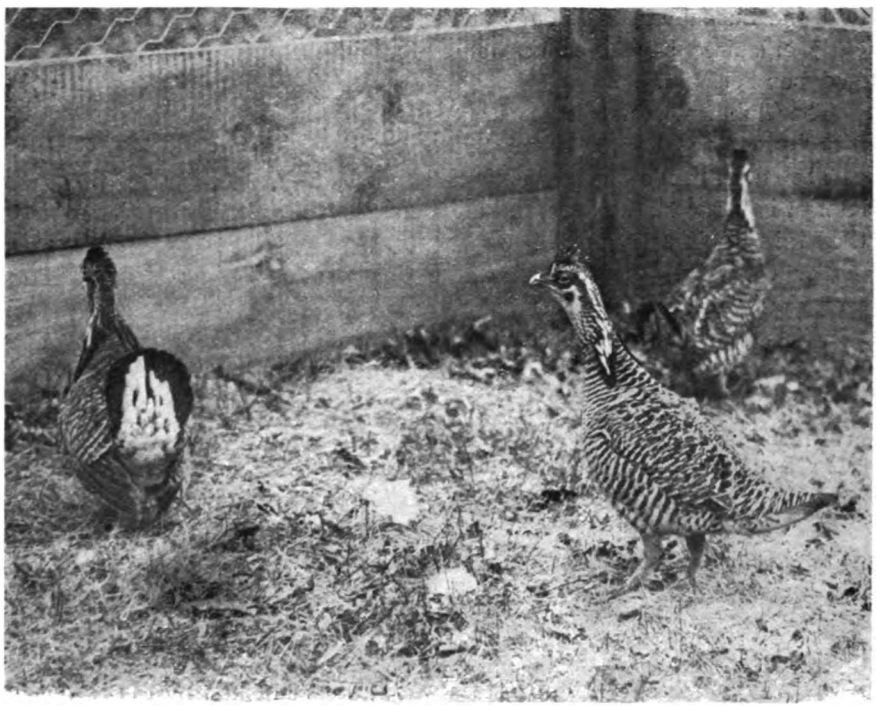
the Hunter's License Law providing that all persons over fourteen years of age, instead of twenty-one, must take out a license to hunt; protection of bear, gray and black fox squirrel which have not had protection in the past in Minnesota; and a law providing for the codification and revision of the Game and Fish Laws to be presented to the next session of the Legislature; also, an appropriation of $15,000 for the maintenance of a State Game Farm for two years. Upon this appropriation being made, the Minneapolis Branch turned over to the State, on May 1, 1917, the Big Island Game Farm where more than 3,000



PINNATED GROUSE, OR PRAIRIE CHICKENS, AFTER BEING CURED OF JIGGERS AND READY TO LEAVE THE HOSPITAL.

birds were reared and distributed this year. The Minneapolis Branch maintained the same number of paid employees as given in the Annual Report, with the exception of the Big Island Game Farm where I am now employed by the State as Superintendent of Game Propagation.

Since the Minneapolis Branch started, in March, 1915, with a paid Field Secretary, much work has been accomplished, especially in the way of establishment of game refuges. The Refuge Law was passed in 1915 through the efforts of the Minneapolis Branch. The Minnetonka Game Refuge, covering 69,000 acres, was the first refuge established under this law. There are now more than 2,000,000 acres in game refuges, which include the Superior National Forest

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and State Parks. Minnetonka Refuge recently has been increased to 85,000 acres, which makes about 100,000 acres in game refuges now cared for and patrolled under the auspices of the Minneapolis Branch. Public sentiment in favor of wild-life conservation has been very noticeable during the past two years, especially in regard to the protection and care of the song and insectivorous birds and in game-breeding. The literature and books put out by the National As ociation of Audubon Societies has probably done more in helping to create this sentiment than anything else. Several hundred copies of the Bulletin on 'The Breeding of Upland Game Birds and Aquatic Fowl,' written by Mr. Job, were distributed throughout the state. Without these Bulletins it is not likely that game-breeding in Minnesota would have received the attention that it has. Many of the notices put out by the National Association of Audubon Societies during the past year, against the slaughter of birds, were received and posted by wardens employed by our League.

The war has stopped the taking up of any new work during the past few months, but the regular work of the League will be carried on as usual so far as is known now.—FRANK D. BLAIR, *Secretary*.

Natural History Society of British Columbia (Victoria, B. C., Canada).—This year, for the first time, a Bird Section of the Society was formed, with Dr. Hasell as President and Henry F. Pullen as Vice-President. Several interesting round-table talks were given, illustrated by museum skins. The most interesting of these were by Frank Kermode, Director of the British Columbia Museum, Dr. Hasell, and Arthur S. Barton.

Note was made from time to time throughout the year of the scarcity of birds in this section of the country. This was supposed to have been caused by the severe winters of 1915–16 and 1916–17. From all over Vancouver Island similar reports arrived. All bird-life has been scarce, but especially the insect-eating migrants, such as the Warblers, Song Sparrows, Wrens, and Hummingbirds.

Last winter there was an invasion of Western Horned Owls, caused, it is said, by unusual scarcity of rabbits in the northern interior. These birds attacked almost everything, but their favorite prey was the Chinese Pheasants which formerly were very numerous here. They were reported to have killed cats, puppies, and many species of birds. Hundreds of the Owls were shot, but some remained in the vicinity until spring.—H. F. PULLEN, *Vice-President*.

Newburyport (Mass.) Bird Club.—As the result of a lecture delivered in this city by Mr. Baynes, the Newburyport Bird Club came into existence, and was formally organized in November, 1916, as a branch of the Conservation Department of the Women's Club. It has since become an independent

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society of about 70 members and seeks to coöperate with the State and National Audubon Societies in their aims and work.

The first year of the Club has been an interesting and successful one. Its individual members have endeavored to attract, feed, house and water the birds, and many of the school-children have become interested in this phase of the work. One of our members keeps a most accurate record of his observations the year round, and by comparing the records of several successive seasons has gathered some valuable information in regard to bird-life in our community.

Winthrop Packard gave an interesting illustrated lecture in the fall of 1916. Last spring we were favored by an afternoon with C. C. Gorst, whose wonderful gift of imitating bird-notes was much enjoyed and appreciated. This talk was inspirational as well as educational. One or two members addressed the Club during the winter months. In connection with the Gorst lecture there was an exhibition of Audubon leaflets, colored by the school-children under the direction of the Teacher of Art. This was honor work, and only the best 150 were selected. These leaflets, neatly mounted, adorned portions of the wall in the hall where the lecture was held. There were also specimens of bird-houses made by some of the school-boys. This small exhibit was afterward transferred to the Public Library for the summer, as an encouragement to the children and an incentive to further work.

A small, enthusiastic bird-class took walks in the spring, during a period of six weeks, under the direction of the well-informed members of the Club. Much pleasure and profit resulted therefrom.

This organization supported the passage of the Migratory Bird Law, through the Massachusetts Congressmen, at Washington. The cat and Sparrow questions have been discussed, but although some traps are in use, no genuinely satisfactory method of dealing with the problem has been found.

The Club hopes to continue doing good work through the coming year and especially to interest the children in a much greater degree.—(Mrs.) LORA D. MOORE, *Secretary*.

The North East (Pa.) Nature-Study Club.—Our Club was organized May 8, 1916, and has a membership of 25 enthusiastic men and women, boys and girls. The President and Vice-President are men of wide experience and careful study, which they are willing to share with others.

The regular meetings are held monthly from September to June, inclusive, one of the most interesting features being the specimens brought by each member, either labeled with a description of the same or for identification. As many as forty specimens are often presented at one meeting—some of them rare and beautiful and their display made possible only by the combined efforts of many. They include flowers, ferns, leaves, fungi, galls, berries

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seeds, vines, mosses, lichens, birds and their nests, butterflies, moths, insects, frogs and bats.

The Club divided into groups to make a special study of one subject during the summer months and then report. The fern group studied under the direction of L. B. Cushman, who has a collection of at least twenty different species of fern growing on his private grounds. Two high-school girls did splendid work in the moth and butterfly field, having about fifty specimens mounted and ready to exhibit and describe. The different stages of the worm and the chrysalis, or cocoon, were also shown.

Robert Cushman, an entomologist stationed in the Lake Erie fruit-belt by the Government, spoke to the Club on the subject of 'Flowers and Insects.' Our Vice-President addressed the high-school students on 'The Protection of Our Songbirds.' The Club has placed two scientific magazines and a book on 'Moths' in the public library.

Members of the Club who travel often give us observations from other places, and word-pictures of Florida and the Adirondacks were made much more vivid to us by reason of our mutual knowledge of scientific terms.—(Miss) ALICE MOORHEAD, *Secretary*.

Pasadena (Cal.) Audubon Society.—Our Society held seven meetings during the year, about six weeks apart, one of them in the afternoon, five in the evening, and the last was an all-day picnic outdoors.

At the first meeting Mrs. Harriet Williams Myers, Secretary of the California Audubon Society, gave a talk on the recent progress of Audubon work; Miss Alice Lockwood, of Sierra Madre, read a paper entitled, 'Our Feathered Friends as Weed-Destroyers.' At the second meeting we had an illustrated lecture on bird-life by Mrs. Granville Ross Pike, Bird Chairman for the Federated Clubs of the State of Washington, and lecturer for the National Association of Audubon Societies.

Wilfred Smith, one of the Directors of the California Audubon Society, and at that time its Acting President, was the speaker at our third meeting, and at our fourth, Mrs. Mary E. Hart, President of the Alaska Cruise Club, gave us a lecture on the 'Customs and Superstitions of the Alaska Indians,' with remarks upon the bird-life of that country. Mrs. William Folger, formerly president of the North Dakota Audubon Society, gave a delightful talk at our fifth meeting on the birds about her Dakota home.

At the sixth meeting, we enjoyed a talk by John J. Fredericks, Treasurer of the California Audubon Society, on the subject of his then-recent work in the cause of birds among the legislators at the state Capitol. The seventh meeting was the picnic, where our entertainers were three members of the Los Angeles Audubon Society. At all these meetings there were, besides the above, prepared papers or informal talks, or both, by our members.

Our Society has had made and placed on the roof of a tall bank building of

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Pasadena a Martin box consisting of thirty rooms, in three stories. At Christmas time we placed a 'Birds' Christmas Tree' in one of our parks, in close proximity to the large municipal Christmas tree. We thought this might add to the children's interest in birds. In the winter we contributed $200 each to the California Humane Association and the California Audubon Society, to aid them in important legislative work then pending. We were able to give this sum of $400 through the generosity of Mrs. E. W. Brooks, since deceased, who was always a true friend to the birds.

We are annual members of the American Humane Association, The California Humane Society, Pasadena Humane Society, the National Association of Audubon Societies, the California Audubon Society, and the British Royal Society for the Protection of Birds.

Some of our members, in small groups, but not as a Society, have taken bird-walks now and then during the year, especially in the spring. A number of the National Association's 'war' posters have been put up.—(Miss) FRANCES K. WALTER, *Secretary.*

Port Huron (Mich.) Bird Club.—The Club has had the pleasure of hearing two public speakers during the year 1916-17. On October 20, 1916, Walter Tripp, of Forest, Ont., gave an interesting talk on 'My Bird Friends.' Prof. Hegner, of Ann Arbor, in connection with the Teachers' University Extension Course, gave a lecture illustrated by the stereopticon, February 8, 1917. In March, a bird-house campaign was started and work was zealously done by the school-children. On April 7, the exhibition of bird-houses was held in the Public Library, and prizes were awarded for best workmanship in high-school, seventh and eighth grades, and below the seventh grade. Prizes, also, for feeding-, drinking- and bathing-devices were open to all grades. The school having the most entries was given an Audubon Chart, thus stimulating interest in bird-study. Prizes were also given for bird stories. There were 115 entries in the exhibit, and the increasing number of bird-houses seen around the city shows splendid interest in the welfare of the birds. A fine present of bird food was given to the different schools, to be fed by the children to the birds in the winter-time when food is scarce.—MRS. JOHN GAINES, *Secretary.*

Rhinebeck (N. Y.) Bird Club.—The Rhinebeck Bird Club was just two years old when, on November 21, 1916, it became officially affiliated with the National Association of Audubon Societies. In that time it had grown from nothing to a vigorous club with the sentiment of the whole village aroused to a keen interest in its bird-life. During the last year it has, perhaps, been not quite so active, owing to the absence of the President on military duty and other urgent demands upon its members. Nevertheless, the usual program has been maintained, including public lectures, work in the schools, and publications.

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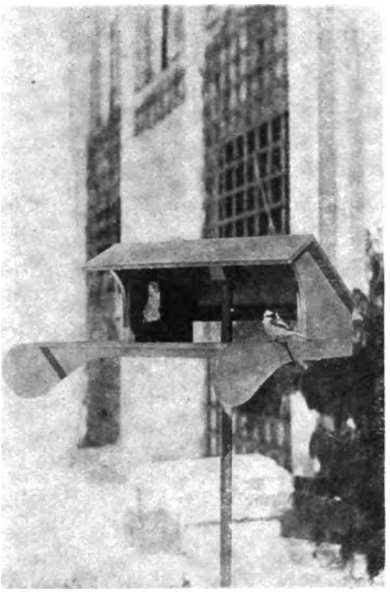
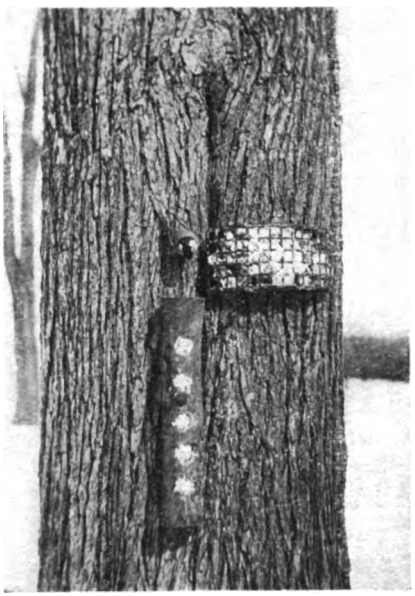
1. PLACING SEEDS FOR BIRDS.



2. CHICKADEE AT FEEDING STATION.



3. CHICKADEE AT SUET STICK AND SUET BASKET.

4. CHICKADEE AT FOOD HOPPER.

Photographs by Clinton G. Abbott, Rhinebeck, N. Y.

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Herbert K. Job, William L. Finley, and Maunsell S. Crosby have been the lecturers so far this year.

One of the difficulties of the Club is the absence of a hall large enough to accommodate all those who desire to attend the lectures; for Mr. Finley two sessions were necessary. Junior Audubon work is flourishing in the schools, 262 Junior members being recorded at the last annual meeting. A contest in bird-feeding devices and nesting-boxes made by school-children brought forth so much excellent material that the judges had a hard task to select the prize-winners. In addition, commercially manufactured bird-boxes are always for sale at the headquarters of the Club and have been extensively purchased by members. Winter bird-food, amounting to ton figures, has also been used by members. For small users, the food is put up in 5- and 10-pound bags, marked with the name of the Club.

In the way of publications, the Club has distributed its Annual Year-Book, which this year included a reprint of twenty-two neswpaper articles by the President, Maunsell S. Crosby. The booklet has proved of such value that it is being used as a textbook on birds in some of the schools of Dutchess County. At the proper seasons, the Club sent to its members and to all school-children tables of spring and fall migrations and nesting dates, also compiled by the President from his observations. Finally, illustrated Rhinebeck Bird Club 'stickers' for letters and parcels have been distributed broadcast through the town.—CLINTON G. ABBOTT, *Secretary*.

Rockaway (N. Y.) Bird Club.—In November, 1916, we completed the organization of the 'Rockaway Branch of the National Association of Audubon Societies' by forwarding our fee to the home office and becoming formally affiliated with the National work.

We have had two public meetings during the year, both of them lectures illustrated by stereopticon views. The first speaker was Herbert K. Job, of the National Association, and, it being our first attempt, the lecture was held in a small hall. We were delighted to find it filled to overflowing, with corridor and all available spaces occupied by standees. With this encouraging outlook, we held the second lecture by Baynes in a much larger hall. There was a splendid attendance and several dollars were added to our almost empty treasury.

The monthly programs have brought forth several interesting and valuable papers and talks on such subjects as 'Conservation as Applied to State Forest Land in the Adirondacks,' 'A Visit to Fairfield (Connecticut) Sanctuary,' 'Bird Migration,' 'Bird-Routes and Time-Tables.' An interesting part of each program is the round-table talks and the question-box with which we usually conclude our meetings. Bird-houses have been made and placed, several bird-baths made, feeding-stations established and kept supplied all winter, and ice in fresh-water ponds broken and the water made accessible to winter residents.

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On January 1, 1917, when members were replenishing a birds' Christmas tree, several varieties of birds were seen drinking at a hole made in the ice within a few minutes of its being opened. Among these were Robins and a Red-breasted Nuthatch that passed the winter in the vicinity.

One of the most fortunate events that has occurred so far in the history of the Club is the establishment, by Mrs. Daniel Lord, of her estate 'Sosiego' as a bird sanctuary. The estate is bordered on one side by the salt-marshes near the ocean, and has a large fresh-water pond and a wood which has long since been appropriated by the Black-crowned Night Heron and the Little Green Heron as a sanctuary peculiarly their own. Members of the Club are privileged to visit the estate at any time for observation and study. We have taken an active interest in the Migratory Bird Law at Washington and have endorsed and circulated the petition for legislative work on the 'Robinson Act' for licensing of cats in New York state.

On June 16 the Club joined the Woman Citizens' League of Flushing, L. I., in a bird-walk and basket picnic, ending with a talk on birds by Dan Beard. In the same month we sent a special contribution of $5 to the National Association in response to an appeal for money to carry on the work of further protecting the song-birds from ruthless slaughter. The Club received and placed in various haunts of the birds, both in Queens and Nassau Counties, 600 of the National Association's 'war' posters, printed on cloth, and is expecting to post 100 more of these when they arrive. The English Sparrow discussion has been frequent and animated, but, without organized and united effort of the entire community, it is nearly useless to attempt anything.

The townspeople, as a whole, do not seem keenly interested in Nature, but the Club hopes to reach many of these indifferent people through its various Junior Audubon Clubs, several of these having already been started by teacher-members of the regular society. If we can get enough of these formed, we will at least rest assured that we have laid a firm foundation for thorough and successful work in the future.—MARGARET S. GREEN, *Secretary.*

Rumson (N. J.) Bird Club.—Owing to the war, there has been a restricted activity in the affairs of the Rumson Bird Club this past year of 1917. We, however, have not been altogether inactive.

In January, we had a very interesting lecture entitled 'Wild Birds and How to Attract Them,' by Ernest H. Baynes, of Meriden, N. H. The lecture was held at the residence of the President of the Club. There was a good attendance, composed of all the prominent members.

In February, a lecture was given by the well-known bird imitator, Edward Avis, in the People's Lecture Course at Oceanic, N. J., the expense of the lecture being defrayed by the President of the Rumson Bird Club. Beecher S. Bowdish, Secretary of the New Jersey Audubon Society, was present at this lecture and spoke, particularly urging the boys and girls to engage in a contest for the con-

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struction of bird-houses, for which suitable prizes were awarded. There were three prizes, all in gold, which were presented to the successful contestants in March.

In April, Chapman's book, entitled 'Travels of Birds,' was distributed among the individual members of the Club.

We have endeavored to support the efforts of the National Association and have posted 250 parchment circulars in regard to bird-protection. This was done under the supervision of the Rev. Arthur A. McKay, of Oceanic, a part of the Borough of Rumson. Mr. McKay is at the head of the Boy Scouts in Rumson, and the boys were employed to distribute these circulars.

We have distributed approximately 150 bird-houses this fall, comprising those for Flicker, Nuthatch, Wren, and Bluebird, among the members of the Club. We expect to go still further with this work in the year of 1918.

It is the aim of the Executive Committee of the Rumson Bird Club to endeavor to stimulate interest in birds and their protection, particularly among the natives of the borough. Unfortunately, the Club has not had very much success at present in exciting much interest among the children of the wealthy summer residents. The Executive Committee is convinced that native children will be more receptive and show more interest in birds and their protection if some kind of stimulus can be placed before them. This we hope to do by offering yearly prizes for bird-house construction, engaging some well-known lecturer to speak as a part of the regular Oceanic Course of Entertainment, and always at the expense of the Rumson Bird Club.—JOHN B. LUNGER, *Secretary*.

Saratoga (N. Y.) Bird Club.—Our Club has held nineteen meetings during the year. The following addresses and talks have been given:

September, 1916, 'Forestry and Its Importance in Preserving Wild Life,' Prof. Samuel N. Spring, Cornell School of Forestry. November, 1916, 'Birds of Saratoga County,' S. R. Ingersoll, Ballston Spa, connected with Federal field-work; the meeting on this date was held with the Junior League at the High School Auditorium. March, 1917, 'Bird Migration,' S. R. Ingersoll. March, 1917, 'Birds of Texas,' Mrs. James W. Lester, a Club member. July, 1917, 'Birds and Trees of Florida,' Mrs. Adelaide Deubon, a Club member. August, 1917, 'The Human Side of Birds,' Dr. Caline S. May, New York City. At the March 15 meeting, the President, Waldo L. Rich, reported having written members of the Senate regarding passing of the cat ordinance. April 5, 1917, 'Bird Sanctuaries,' Gilbert Benedict. May 17, 1917, 'Methods of Teaching Children How to Work with Best Results,' Miss McCluskey.

The Bird Club enjoyed a visit to the country home of one of its members, a short trip by trolley.

The importance of bird-protection has often been emphasized. The Juniors built a Martin-house for our city park. Last November our Club joined the

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National Audubon Society. Our President has reported forty pairs of Martins in his garden this summer.

Mr. Ingersoll told us that the most beautiful bird he had ever seen was a Redstart, which was pure white except the wings, which were yellow, a very rare case.—CAROLINE C. WALBRIDGE, *Secretary*.

Seattle (Washington) Audubon Society.—The second year of our Society has been one of success, both in the increase in membership and in interest shown.

There are now 132 active members. Regular monthly meetings are held in the rooms of the Chamber of Commerce and Commercial Club, where lectures have been given by Samuel F. Rathbun, Prof. Trevor Kincaid, Miss McCarney, and others. We have had a number of 'bird-walks' which have been well attended and much pleasure and knowledge derived therefrom. The public school teachers have entered into the work whole-heartedly, and too much praise cannot be given them for the work that they are doing with the school-children.

Our chief activity during the year was a bird-exhibit which was given in conjunction with the manual training department of the city schools. Bird-

BOOTH OF SEATTLE AUDUBON SOCIETY AT SPRING "BIRD EXHIBIT," 1917.
COLLECTION OF BIRD SKINS LOANED BY PROF. TREVOR KINCAID.

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houses by the hundreds were exhibited, also bird-nests. Great interest was manifested, and the exhibition was visited by several thousand people, the hall being crowded all day and evening. The advertising was unique, bird-houses by the hundred being hung up at street-corners and electroliers in the business

EXHIBIT IN SEATTLE, WASHINGTON. BIRD-BOXES MADE BY PUBLIC SCHOOL PUPILS UNDER DIRECTION OF PROF. B. W. JOHNSON.

district, each carrying a banner advertising the exhibition. The boys sold a great many houses, and the Society received an accession in memberhip.

Efforts are being made to have bird-houses and drinking-fountains placed in the public parks, and the Society hopes that the time is not far distant when the cats will be licensed, to which end we hope to secure the coöperation of the Humane Society.

Addresses before the Parents-Teachers' Associations have been made by local members. A call for literature on bird conservation came to us from far-off Russia, and these things have given us courage and enthusiasm for the work of the coming year.—(Mrs.) KATHERINE N. MOORE, *Acting President.*

South Bend (Ind.) Humane Society.—The South Bend Humane Society has about 100 slides of birds, and during the year these have been used in a number of the schools.

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The Bird Club in this city has been more or less active and has had monthly meetings and numerous bird-walks. Quite extensive bird-work has been done in the public schools through the aid of the teachers. Once a week every teacher in the lower grades gives talks on the birds and animals, and a great many of the buildings are ornamented with hundreds of bird pictures in the halls and rooms, so that the children are being continually educated by the eye as well as the ear.

This spring we had an essay contest at which over 500 essays on birds and animals were submitted. This winter the Society expects to give quite a number of illustrated bird-talks.

A few days ago the writer gave a bird-talk for the benefit of the Red Cross Society with the result that the sum of $40 was secured for the work.

During the year the National Association of Audubon Societies formed a number of Junior Audubon classes in the schools of South Bend. These did good work.—H. A. PERSHING, *Secretary.*

South Haven (Mich.) Bird Club.—This Club was temporarily organized in August, 1917, under the direction of Ernest Harold Baynes, following one of his lectures, and the presentation of the Bird Masque, 'Sanctuary.' We permanently organized in October, with 36 members enrolled. We meet once a month; short papers and informal discussions make very enjoyable evenings. We joined the National Association, placed the magazine BIRD-LORE in our library, asked our local paper to publish a list of bird books to be found at the library, and for a few weeks caused to be published, one day a week, a few suggestions for the care and protection of our early migrants. Our Christmas Census contained 14 species and 151 individuals. At the 'Scott Club' (our local ladies' literary club) we celebrated John Burroughs' birthday, April 3, by giving a bird program, decorating the rooms with spring flowers and buds, nests and forty mounted specimens of birds and a hundred or so colored plates, bird-houses, bird-music, bird-poetry and bird-papers, filled two hours' time and much interest was taken.

Many of our members added more houses for the spring arrivals, and some have successfully trapped the English Sparrow. A Mockingbird gladdened the heart, eyes, and ears of our President all winter and well into the spring, when she spent much time in her garden.

May 5 a small party of our members spent a delightful day in the woods, by creeks and lakes, and identified 52 species of birds. We are trying to get our Council to secure an ordinance for the control of stray cats.

We are young, very young, and a little proud, so far, for a one-year-old.—FLORENCE L. GREGORY, *Secretary.*

Spokane (Wash.) Bird Club.—Our organization has been in existence for three years. Early in the present year we had an illustrated lecture by

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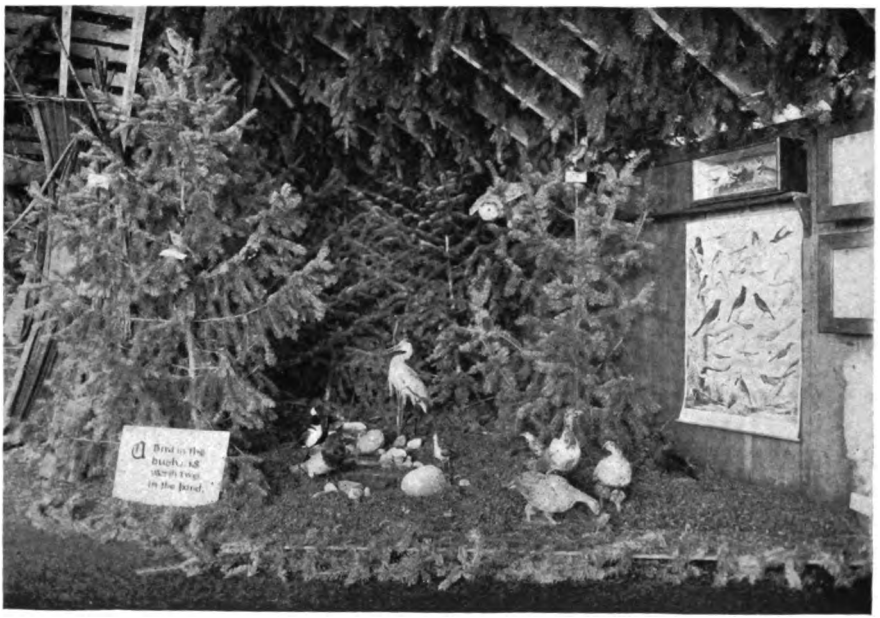
Prof. Hungate of the Cheney Normal School on 'The Economic Value of Birds.'

One of the regular meetings was planned for the purpose of making the members acquainted with each other. Instead of the usual formal program, contests were arranged, requiring the identification of local birds.

Last spring several bird-trips were planned by the committee appointed for that purpose, the one on Decoration Day to Glen Tana Farms being the most



A VIEW OF PORTION OF EXHIBIT MADE BY SPOKANE BIRD CLUB AT THE INTERSTATE STATE FAIR, SEPTEMBER, 1917.

largely attended and the most successful from the standpoint of the number and variety of birds seen.

The Bird Club exhibit at the Interstate Fair, held the first week in September, was greatly appreciated, judging from the favorable comments of the large crowds that stopped to examine this display.

The members of the Bird Club feel that they have accomplished a good work this year by helping to establish a much-needed city museum. One floor of a down-town business block has been rented, and a large collection of stuffed birds, birds' eggs, and other interesting material has been assembled for the instruction of the public. A curator has been placed in charge, and the museum is kept open each afternoon of the week. The Bird Club now holds its fortnightly meetings in these rooms.—GERTRUDE KAYE, *Secretary-Treasurer.*

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Sussex County (N. J.) Nature-Study Club.—This Club will, in November, celebrate its eleventh birthday, and, although organized for the study of Nature in general, from the first, birds caught and have held our interest, and our 'bird-walks' still prove the most popular feature of our work. While this has not been a banner year in the number of birds seen, we have been pleased with a number of the rarer ones—Pine and Evening Grosbeaks, several species of Ducks, Lawrence and Mourning Warblers, and White-crowned Sparrow. The food-shelves provided by the individual members attract the usual winter visitors, many of whom become tame enough to eat from the hand. The increasingly large flocks of Starlings are causing apprehension. Three years ago only here and there was a stray one to be seen.

Our Club has endeavored to comply with all requests sent by the National and State Audubon Societies relating to legislative work, and have posted in various places in our county the 'war' posters provided by the National Association. During the year one moving-picture entertainment was given at the county-seat, Newton. This consisted of an exhibition of reels from the National Audubon Society. Every month a report of the Club-meeting is sent to the county papers, and the interesting bird items contained in these reports have, we believe, done their part toward rousing the interest of the people of Sussex County in birds—their great value and the necessity of becoming their protectors. As in many communities, there still exists in the hearts of some of our hunters an antagonism for the Audubon Society, but a lack of sympathy for the law-breaker is fast causing enforced respect, if not honest abandonment of ruthless killing.—F. BLANCHE HILL, *Secretary.*

Vassar College (N. Y.) Wake-Robin Club.—During the past year the activities of our Club have not been so extensive as formerly, because of the necessity found in all organizations in college of economizing both in time and money, as a result of our war-preparedness program. We fed the birds on the campus during the winter In the spring the Club made its annual visit to John Burroughs at 'Slabsides,' where, after a picnic lunch, Mr. Burroughs spoke to us informally on the birds.—(Miss) MILDRED A. TINDLE, *Secretary.*

Vigo County (Ind.) Bird Club.—The plea of the birds was first heard in Terre Haute in August of 1916. Their messenger, Ernest H. Baynes, the naturalist of Meriden, N. H., on a Chautauqua tour, organized the Vigo County Bird Club, whose aim was to foster bird-preservation and -study and further the movement for bird sanctuaries. The officers were: President, Mrs. Sara Messing Stern; Vice-President, Assistant Superintendent of Schools Tilley; Treasurer, Mrs. William Cheney; Secretary, Miss Amanda Lotze.

The regular program for the year, under the direction of Prof. Tilley, whose suggestions were most helpful, was as follows: 'Biography of John Audubon;' 'Fall Migration;' 'A study of vacated nests' (found by the members

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JOHN BURROUGHS, AT SLABSIDES, ENTERTAINING THE VASSAR COLLEGE WAKE ROBIN CLUB.

and brought to the meeting); 'Our Winter Birds;' 'Physiological Parts of a Bird;' a stereopticon lecture on 'Winter Haunts.' Many additional features were accomplished through the aid of Prof. Tilley and Prof. Howard Sandison of the Indiana State Normal School. A contest was conducted among the school-children for the making of novel and practical bird-houses. These were exhibited in the windows of the prominent stores and the awards made at the Public Library.

Many of the public schools made charts of their districts. The children located as many bird-nests as possible and marked their location on the chart. They then watched the progress of the brooding and, as the eggs were laid, colored the marks on the chart accordingly and classified the species. This slight research work aroused great interest among the little people. Miss Rose Griffith, head of the art department of the public schools, stimulated further interest by introducing a course of bird- and nest-drawing into the curriculum of her department.

A vigorous newspaper campaign was conducted against the wearing of bird ornaments or feathers as adornment. The general publicity, so graciously given us by the newspapers, was of great aid in our first year's work. They accorded space for articles written monthly by Club members, the subject each month being the birds inhabiting these parts at the time. The Bird Club was

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instrumental in having the Congregational Church bring to the city Mrs. Theron Colton, of Chicago, who gave an interesting and illuminating talk on 'Birds and Their Nests,' illustrating her lecture with some fifty specimens and enlivening it with her interpretation of bird-calls.

Many other activities, too numerous for mention, were carried on. As we of the Vigo County Bird Club look back upon our first year's work, we feel most happy at the results our efforts have obtained, and we look forward eagerly to another year's work and study of the little feathered brothers.—(Mrs.) MILDRED MESIROW.

Wellesley College (Mass.) Bird Club.—Our Club is only six months old, but it combines with the enthusiasm of youth very definite purposes. Its objects are to encourage the study of birds and to conserve and develop the bird-life of the college grounds. The need of conservation was the immediate motive for the organization of the Club, the restoration of the birds to the campus being called for by the ravages of the gypsy moth. The Club was organized early in the spring of 1917 and was launched very happily upon its course by Ernest Harold Baynes, with a lecture on 'Wild Bird Guests.'

During the spring the Bird Club organized and conducted a series of early morning bird-walks and kept posted on its bulletin board a record of spring arrivals. Each member of the Club was provided with a check-list of the Massachusetts Audubon Society, and in several cases these lists included more than 70 birds observed.

The Club is also working in close coöperation with the Faculty Committee on the Conservation and Development of the College Grounds (one member of this Committee being a member of the Executive Committee of the Club). This Committee, by means of a generous gift of an interested alumna, had, during the preceding fall, established more than a dozen winter feeding-stations at various points on the campus, and had erected posts for nearly 100 nesting-boxes. The Bird Club was presented with 75 'Wellesley' bird-boxes by their designer, John C. Lee, of Wellesley. In the care of these feeding-stations and of the nesting-boxes, the Bird Club will render valuable assistance to the cause of conservation. Already, in the first season, more than half the boxes were occupied by nesting birds.

The restoration of birds to the college grounds and their protection will be an active stimulus to the study of birds. The Club, therefore, in its many plans for the future, keeps steadily in mind measures that will assist in their conservation. It is their aim to make, each year, some permanent contribution to this cause, such as a bird-bath, a drinking-fountain, or a bit of planting that will provide both food and shelter. In this way the interest of the Club will find permanent expression, and the beauty of the campus will be preserved and increased for future generations.—MADELINE E. ALMY, *Secretary*.

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Western Pennsylvania Audubon Society.—The Society's outings the past year under the enthusiastic leadership of the 'Country Rambler,' Edmund W. Arthur, were very popular. These are all-day affairs (Saturday). Arriving at the appointed place, the Chairman appoints leaders of small groups and assigns them a territory. In the mid-afternoon all groups unite and the leaders report the discoveries made by his or her group. Usually a silent period was observed, all listening for bird-voices.

The lectures are, as a rule, free to members, with a small fee for visitors. The lecturers during the past year were Henry Oldys, Washington, D. C.; Mrs. S. Louise Patteson, Cleveland, Ohio; George L. Fordyce, Youngstown, Ohio; T. Walter Weiseman, Emsworth, Pa.; W. S. Thomas, Pittsburgh, Pa.; W. E. Clyde Todd, Beaver, Pa.; and T. S. Briggs, of Norristown, Pa.

A union dinner of our Society and the Sewickley Valley Audubon Society is an annual affair in March. Members are thus enthused to get out notebooks and field-glasses and take to the highways and hedges. Last March 580 bird-lovers dined and were addressed by the President of the societies, Charles B. Horton, and by Witmer Stone, of Philadelphia, Pa., President of the state Society. Greetings were received from Walt F. McMahon, representing the National Association of Audubon Societies. Mr. Norman McClintock, of Pittsburgh, exhibited his wonderful motion pictures of bird-life—proclaimed by authorities to be the finest ever taken. The Society has increased the interest in bird-study in the schools and created a desire for bird-knowledge in thousands of people. All over western Pennsylvania, bird-shelters, feeding-stations, and nesting-boxes have been erected; food-bearing shrubs and trees have been planted; cat facts have been made known; and appeals for bird-feeding at times of heavy snow-fall have been made in the daily papers. The officers of the Society are as follows: President, Charles B. Horton; Vice-President, Fred L. Homer; Second Vice-President, E. J. Robinson; Third Vice-President, R. H. Santens; Treasurer, T. Walter Weiseman.—JOHN W. THOMAS, *Secretary*.

Wild Life Protective Society of Milwaukee.—Realizing the immense value of junior work in connection with wild-life protection and conservation, our main activities were centered about the school-children and their schoolrooms with the idea of organizing a strong army of defense—inculcating into every boy's and girl's mind the noble spirit of wild-life protection. In other words, we hoped to accomplish by constructive measures what restrictive measures had failed to do.

Our plan was to organize in every school, whether public, private, or parochial, a bird club comprising the fifth, sixth, seventh and eighth grades. The teachers of the different grades selected one of their number to act as director of the club and the children elected a president and secretary. Each member of these clubs was then presented with a button emblematic of the

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parent society and showing their affiliation with it. Each club was also presented with a No. 1 Audubon Bird Chart to be used in their daily or weekly work, and especially for object study. The future conduct of these clubs is, of course, left largely to the directors and the principals of the various schools, our Society being at all times ready to assist them by word and counsel.

With the assistance of a large chart, slides, and films, I talk to these clubs from time to time and help to keep alive the interest. We have now some 8,000 children enrolled in these affiliated bird clubs, and we have only started. Have also had made a set of slides for use in our local movie houses. We have found these to be of great value in carrying on this work and earnestly recommend this method of propaganda to all our fellow conservationists. This has been almost our entire effort the past year, and we hope to continue the work this coming year. I believe that education is the only real solution of this great problem, and that to educate the children and teach them the first ethics of wild-life conservation is the greater and more important obligation of all lovers of our feathered friends.—ADOLPH BIERSACH, *Secretary.*

Williamstown (Mass.) Bird Club.—Our Club was started in January, 1917, after a lecture by Mr. Baynes. In the spring there was a lecture for the school-children, given by Mr. Packard. On Arbor and Bird Day there were addresses by Prof. S. F. Clarke and Judge Fenney.

Letters were written by Prof. Clarke and by Judge Fenney to our legislators, in regard to the Migratory Bird Treaty Act.

The Club was made a member of the National Association of Audubon Societies by the sending of $5 to the Massachusetts agent, Winthrop Packard. A special contribution of $5 was sent to the Massachusetts Audubon Society for the protection of our native birds, made necessary at that time by the unusual amount of the shooting of birds by foreign laborers, who plead the excuse of the high cost of meat.

A beginning has been made toward a collection of bird-skins, and the following ones have been purchased: Tree Swallow, pr.; Red Poll, pr.; Tree Sparrow, pr.; Evening Grosbeak, pr.; Chickadee, pr.; Pine Finch, pr.; Hudsonian Chickadee, pr.

The Bird Box Committee was authorized to spend $15 on nesting-boxes. About fifty boxes were put up in various parts of the village and many of them were occupied. Some members of the Club were active in reducing the number of English Sparrows, and more members fed the winter birds with seeds and suet.

The Club has a membership of 57 and a balance in the bank of $47.—MARY L. FERNALD, *Secretary.*

Winston-Salem (N. C.) Audubon Society.—Our May meeting was held on the lawn at Mr. and Mrs. H. W. Foltz's home on West Second Street.

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There was a very large attendance, including several visitors, and three new members were added to our roll. This was our first outdoor meeting, and it was so thoroughly enjoyed by all present that we decided to hold more of them. We met at 4.30 P.M., Dr. Schallert, the President, presiding. After the business had been attended to, Dr. Schallert read a very gratifying report of our Society from the last annual report of the National Association of Audubon Societies. He also told us of his experience in providing nesting-boxes for the birds at his home. Upon invitation it was decided to hold our next meeting with Mr. and Mrs. Victor Craigen, two miles out of the city, near the Bethania Road.

Our kind host and hostess then conducted the company over their spacious grounds of several acres, where we were shown the nests of various birds, including the Robin, Cardinal, Thrush, Catbird, Bluebird and Carolina Wren, some on trees and bushes, some in nesting-boxes, and some on their back piazza. Also a goodly number of birds were seen and heard during the evening, and they seemed to fear no danger from the gathered company. We returned by way of some well-laden service berry and cherry trees, the delicious ripe fruit of which constrained us to linger long by the way, and when we finally reached the lawn again, we were refreshed with most excellent lemonade before we adjourned to our homes.

Our June meeting was held with our enthusiastic members, Mr. and Mrs. Craigen, at their beautiful new home northwest of the city, near Reynolds. The afternoon was warm but clear, and a goodly company were in attendance. We first adjourned to the fine springs at the foot of a steep hill north of the dwelling, and after drinking of the excellent water, we started on our tramp of a half-mile through the woods and fields, along streams of running water bordered with beautiful ferns and wild flowers of many varieties, the latter being explained to us by our botanical friend, Dr. Schallert.

Among the birds' nests found and examined we remember especially that of a Chipping Sparrow in an old apple tree; a Chewink whose nest with five brown spotted eggs was right on the ground; a nest of Flycatchers on a dogwood limb that was so full of fluffy youngsters that it seemed to be overflowing; a Mourning Dove that was sitting on her two cream-white eggs in a rough-looking nest in a wild plum tree, but she flew away on our approach. When we returned to the house, almost every lady had quite a collection of wild flowers and medicinal herbs.

Sitting on the large front piazza in the cool evening breeze, the business session was attended to, and then we bid our kind hosts adieu, and in motor cars sped away to our city homes.

We have a number of Junior Audubon Societies organized in our city schools, and some of them are doing splendid work. We are going to try to extend our work to the country schools this fall and hope to have good results.

We had one excellent illustrated lecture during the year by R. E. Parker,

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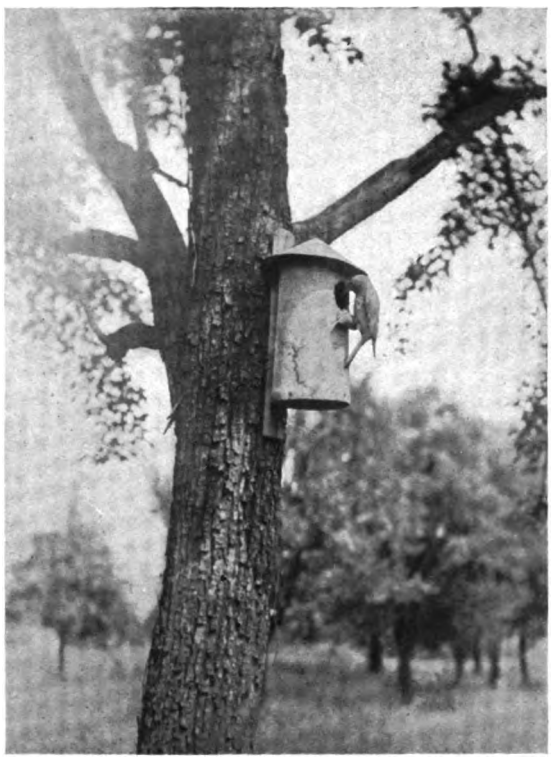
State Secretary of the Audubon Society of North Carolina.—H. W. Foltz, *Corresponding Secretary.*

Wyncote (Pa.) Bird Club.—In the history of the Wyncote Bird Club the past year has been the most successful because the Club has become more of a community activity. This has been in spite of the fact that in these war days so many more pressing duties are demanding our attention. Our Presi-



BLUEBIRD AT BOX MADE BY WYNCOTE BIRD CLUB.

dent, E. H. Parry, who has done so much for our birds and for our Bird Club, expects any day to go to camp at his country's call; our former President, Ernest Corts, is already in camp, and we will unquestionably miss their able assistance.

Over 100 Wren and Bluebird houses have been made and erected in the neighborhood. On a Junior walk in early spring we put up some of these houses in an old orchard and within fifteen minutes saw Bluebirds enter one of them.

Adult and Junior walks were conducted frequently in the spring, usually going by autos to some woods over a mile from Wyncote. These trips are very

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popular, and sometimes our trusty Fords are filled to overflowing. We had our usual picnic in June, with a bird-walk first and then lunch in the woods. In July, 47 members went in two big automobile trucks to visit the Philadelphia Academy of Natural Sciences, 10 miles away.

JUNCOS FEEDING ON WINDOW SILL. WYNCOTE PENNSYLVANIA, BIRD CLUB.

Prizes were awarded for: (1) Bird photographs; (2) imitations of bird songs; (3) essay on 'Wild Life;' (4) first bird (other than English Sparrow or Starling) to hatch young in box made by competitor; (5) first person on whom a wild bird alights (not awarded).

A Sparrow trap was bought by the Club, and the English Sparrow popula-

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tion has considerably diminished. Some have tried eating them and endorse this as a good way to aid food-conservation.

Several feeding-stations were kept constantly supplied with food last winter, and the State Game Commission helped us in this by donating $10 to the cause.

We have had some good lectures this year, one by Samuel Scoville, Jr., Staff Naturalist of the Boy Scouts of Philadelphia and Counties; Rev. Herbert Westwood, of Mt. Airy, who used the Pennsylvania State Museum Slides; and Dr. Joseph Kalbfus, Secretary of the State Game Commission, who used stuffed specimens of our common birds to illustrate his interesting talk. In December, 70 of us went to hear Ernest Harold Baynes, the founder of our Club, in his ever-interesting and impressive lecture on 'Wild Birds.'

At one meeting the entertainment was almost entirely by the Juniors. Their interest is a great source of encouragement to the Club. We feel that especially in these strenuous times the Bird Club gives a needed recreation and has another purpose than helping the birds.—ESTHER HEACOCK, *Corresponding Secretary.*

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AND
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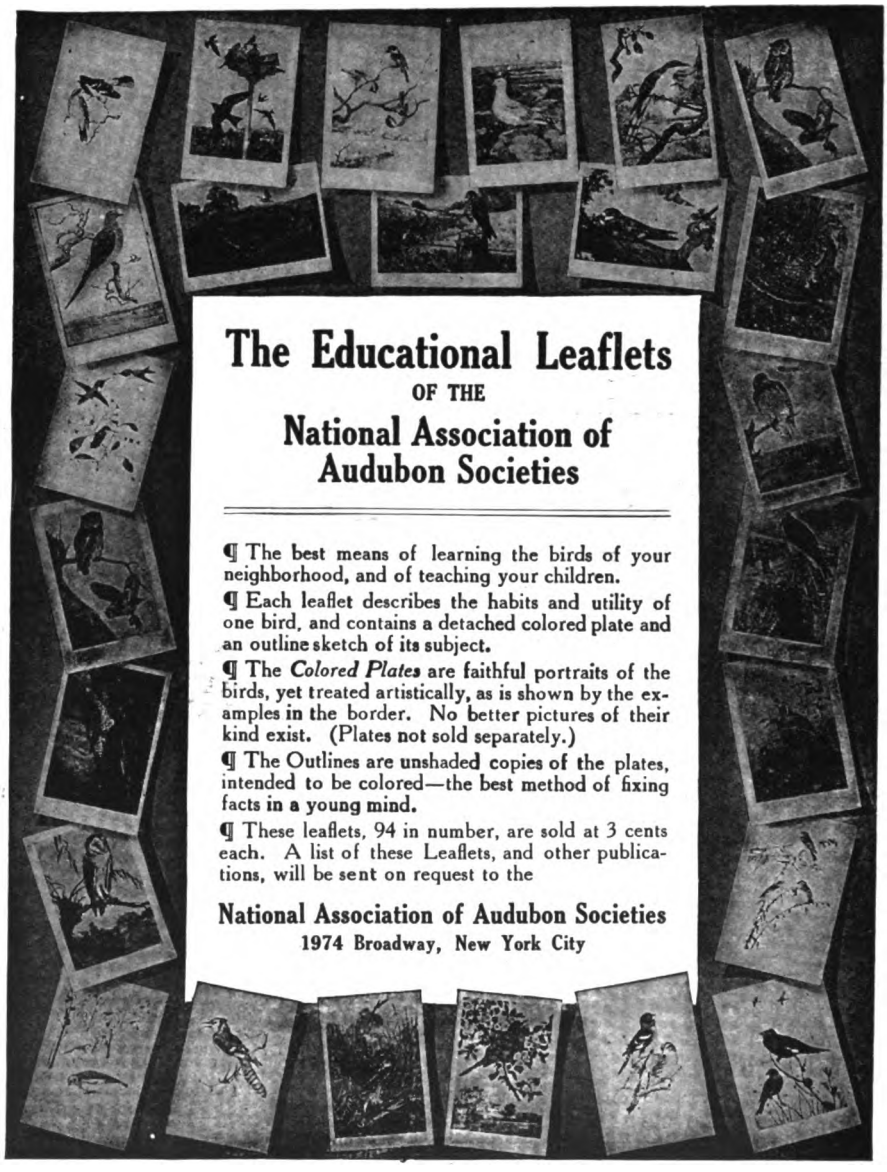

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(The publishers of BIRD-LORE respectfully urge subscribers who desire to have unbroken files of the magazine to renew their subscription at the time of its expiration.)

Vol. X, No. 6, with Index; Vol. XI, No. 6, with Index; Vol. XIII, Nos. 4, 5; Vol. XIV, No. 2.—ARTHUR F. GRAY, 53 State St., Boston, Mass.

Vol. I, complete; Vol. II, complete; Vol. III, Nos. 1, 2; Vol. VII, No. 1.—B. F. BOLT, 1421 Prospect Ave., Kansas City, Mo.

Vol. I, Nos. 3, 5; Vol. II, No. 5; Vol. III, No. 3; Vol. VII, No. 5; Vols. VIII, IX, X, XI, with Index.—GEO. W. H. VOS. BURGH, 56 Maple Ave., Columbus, Wis.

Vol. XII, No. 4.—HAROLD M. HOLLAND, 320 S. Gramercy Place, Los Angeles, California.

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1. SUMMER TANAGER, Adult male
2. SUMMER TANAGER, Young male
3. SUMMER TANAGER, Female
4. HEPATIC TANAGER, Male
5. HEPATIC TANAGER, Female

(One-half natural size)

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XX | MARCH—APRIL, 1918 | No. 2

Some Notes on Martin Colonies

I. WHY NOT ESTABLISH A PURPLE MARTIN COLONY THIS YEAR?

By GRACE ReSHORE, Dowagiac, Mich.

IF YOU love the companionship of birds, plan to establish a Purple Martin colony this year on your home grounds.

Several years ago, a bird-loving friend said to me one April day, "I see, on the wires about the city, hundreds of Martins that I think would nest and spend the summer here if they could find suitable nesting-places."

For years we have had one colony in the cornice of one of our business blocks; the space is limited, and when the young birds return to the home nesting-place, after their winter in South America, they are obliged to move on to find and make new homes for themselves. The old birds will, if the nests suit them, return each year to the old home and bring their family with them, who in turn will make for themselves new homes in the same locality, if suitable places can be found.

In my innocence and ignorance, I wrote Ernest Harold Baynes, a well-known authority on the subject, that there were Martins in the town, but that I had never seen them about our place—did he think I could get them to locate there? He replied that I had never seen them, probably for the reason that I had never had anything there to attract them; that, if I would put up a Martin-house, they would, without doubt, inspect it within an hour: they would come and look it over, and, if it suited, would take possession probably the first year. (Two houses are better than one, as the Martins like company.)

Mr. Baynes stated that there were many good Martin-houses on the market, but he had never been able to see that the birds showed any preference. They would be as apt to locate in a simple homemade affair as in a more elaborate one, and if the house were well located in the open, with the pole on which it was mounted made cat-proof, I would, without doubt, have the pleasure of seeing the house used and hearing the Martins' jolly music all summer.

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About that time, I saw in BIRD-LORE a cut, with accurate measurements and directions for making a ten-room Martin-house. I took the cut to a local carpenter, asking him to make me two of the houses, following the same general plan as illustrated in the cut, which he did. I do not think the houses would be winners in a beauty contest, but, as Mr. Baynes said, the Martins are not critical.

I secured a 20-foot pole from the local telephone company, and, before painting it, I covered a part of the lower half of the pole with a sheet of tin, thus making it cat-proof. I then fastened the house on the pole with heavy angle irons, getting the first one up late in the afternoon of May 1.

The next morning I heard an unusual bird-note and looked out to locate it: sure enough, there were six or eight of the Martins circling over and around the new house. They soon alighted on it and looked into the rooms. More came, until it seemed to me that all of the Martins in the city must be there on a tour of inspection, but they did not remain long.

In a day or two I put up the second house, and that, also, was, in its turn, promptly looked over. There would be a day or so at a time when I did not see any birds around, but nearly every day a few would come and fly back and forth from one house to the other, then go away.

By the middle of the month, a few pairs came to stay; probably they were the young, immature birds from the old colony. I could not see much difference in the birds, as all looked alike. The young male and adult female look very much the same—backs a dusty black and breasts gray. The full-plumaged male does not have the complete dress of shining purple-black until his second postnuptial molt.

My success encouraged others to erect houses for them, and we now have in the city nine or ten houses of from eight to twenty rooms, all of which are occupied partly or in full. For the last two years I have had 'capacity' houses. During the middle of a hot day they will seem to be away for several hours, but morning and evening they can be seen and heard most of the time.

It is said that a Martin will eat a thousand mosquitoes in a day. While I cannot say that I miss any yet, I know that the Martins get a large part of their food at or near the house, and all of their food is obtained from the air as they fly about. The only time you see Martins on the ground is when they are gathering materials for their nests. Straw, dry leaves, shavings, mud, and a few green leaves for lining the nest seem to be the materials most used, and from the inspection of the nests when the houses are taken down for the winter, one could not give them a first-class recommendation either as housekeepers or nest-builders.

They nest only once during the season, and that rather late, as it must be warm enough for plenty of insects to be in the air for food for the young birds.

Plan to start a colony this year; get your house ready and put it up the last of April or the first of May. Any boy can make one. Mount it away from trees

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or buildings, put it up 15 or 16 feet from the ground, and see if it will not attract some of the birds flying over, who will come down and inspect it and, perhaps, locate. You will be repaid for your effort by their jolly music during the summer.

The Martins leave rather early in the season—soon after the young learn to fly. The time of their coming varies with the season—April 15 is as early as they have come to stay in southern Michigan.

II. SOME TOWN MARTINS

By R. F. O'NEAL, St. Louis, Mo.

For several seasons we have had a colony of Purple Martins in a rather thickly settled residence part of St. Louis. It seems that they have found their surroundings congenial enough, and that they are not at all disturbed by the noise and bustle that are a part of city life.

At first there was a four-family box, then two of them. For two summers it has been a sixteen-family settlement and the home of ten to twenty Martins. The small boxes—about 25 feet above the ground—are on scantlings fastened to a frame garage about 25 feet from the rear of the house and on the line of a brick-paved and, at times, very noisy alley. The large box is on an upright that rises from the center of the roof. Within 300 feet there are five garages tenanted mainly with not always silent Fords, and there is nothing of the 'Sleepy Hollow' kind in this stretch of alley. So much for the social disposition of these cheerful birds.

The first box was not put up until the Martins had been flying about for some time, and they came to it at once. On March 31, 1914, a lone male came to the box about 7 o'clock in the morning, sat on the upper perch for a little while, then flew away. It seems that the males always come first, and the first to put in his appearance in 1915, came on April 6. Others were flying about in a leisurely way, and it is possible that they had been in the neighborhood for several days. In 1916, the date of arrival was March 30, again at about 7 o'clock in the morning. The winter of 1916–17 was a mild one, a good part of March being rather springlike, and one or two came about 9 o'clock on the morning of the 15th.

A somewhat peculiar feature in the domestic situation of these birds is the fact that the little colony for several seasons has been made up almost entirely of females. There have been visitors from time to time, sometimes making up a mixed company of some twenty-five, but for three summers there were seldom more than two males that seemed to be taking part in building the nests and bringing up the young birds. Sometimes two females gave their attention to one apartment, and it seemed probable that they were using a single nest, as is common with some of the domestic fowls.

At first, the diet of the fledglings is made up of the common catch that is

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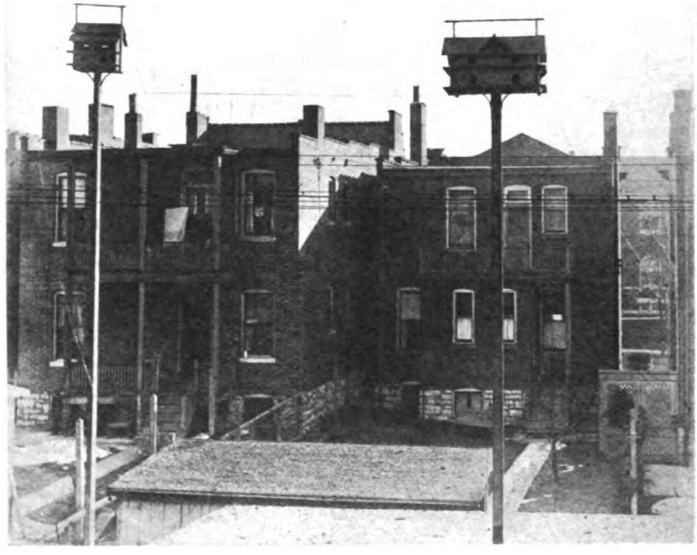
easily swallowed and quickly digested. Later, when the young are well grown, it seems that dragon-flies are much sought, and these are crammed down the throats of the voracious youngsters—wings, legs, and all, without trimming, pruning, or macerating of any kind. Catch on the wing and feed as caught—this seems to be the Martins' way of providing for their young.

While highly specialized along certain lines, as in their manner of seining the air for gnats and other minute flyers, the Martins are not all-round experts by any means. They are very solicitous for the safety of their young, but they are not apt at meeting some unusual conditions, and the fledgling that falls to the



SOME TOWN MARTIN HOMES
Photographed by Edward S. Daniels

ground is usually lost. And that first plunge, that trying of wings without even the experience that comes of instinct, with even chance of reaching a landing or dashing against a wall—this is the supreme test in which a Martin lives or dies.

They are real artists in some respects, but are utterly lacking in the skill that enables some of the ground-birds to pound a hard beetle into a luscious morsel. They know nothing of the engineering tactics shown by the House Wren when she takes a stiff 6-inch twig through a hole the size of a quarter. The straw that offers slight resistance is allowed to fall to the ground, and they seem to waste a good deal of time in building very ordinary nests. The young birds usually come out in July, and, if the first flight is successful, soon learn to

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disport themselves with remarkable ease and grace. They usually leave for other climes about September 1, but they sometimes get away earlier. And that long flight may be from New England to Brazil—but what is that to these free-lances of the air!

There seems to be a rather general impression that Martins are very particular as to the size of their quarters, and especially as to the size of the openings through which they are to come and go. There are reasons why this is partly true; there are reasons, too, why it is true only in part. The habits of animals and birds are controlled largely by instincts that lead them to seek dark corners in inaccessible places, mere existence being the first consideration, comfort and convenience not having much part in the matter. Wild creatures can exist under most uncomfortable conditions, but they should not be forced to do so. If we set out to attract the birds and offer artificial homes as inducements, we should also consider their comfort and happiness, as well as their safety, even if in so doing we run counter to some of their ways. Shame on the bird-lover who would inveigle a pair of Wrens into a tomato can, only to be roasted, with their little ones, in the broiling sun of the long summer days!

The dimensions of our smaller boxes are, approximately, 15 x 9½ x 11 inches. This gives the lower apartments about 6 x 8½ inches, with height of 5 inches. The slanting roof, which has a break on each side for ventilation, gives the upper apartments the advantage of greater height. The openings are 2 x 2 inches, the height being increased by slight arch, with perches about 1½ inches from the box. An extra perch, much liked by the birds, is on slender uprights and about 6 inches above the roof. The large box—the centerpiece of the set—has the upper perch, also upper and lower perches on the four sides, and eight apartments, each about 8¾ x 14½ inches. This box fronts in four directions and has sixteen openings, about 2¼ x 3¼ inches. Not much to the liking of the birds at first, not at all in accordance with the ideas of the critics of this kind of architecture, it has been a kind of playground, and several broods have been brought up in it.

With the ordinary boxes, if the several apartments are occupied, there is not room at night for the pair and their fledglings, and the result is that some of them are crowded almost to suffocation. Just here it is that the large box has served as a sort of overflow bungalow, affording daytime shelter in inclement weather and comfortable sleeping-quarters for home folks and guests through the warm summer nights.

It was the intention to let the birds give grace and charm to the picture, but they stole away early, without notice of the time of their departure.

Of the Martins it may be said that they are birds of good cheer. When perched about their homes, and also in their rooms, they have a kind of rolling warble, winding up with a smacking of the mouth, and repeated *ad finem*, if not *ad infinitum*. Their note, when on the wing, is clear and far-carrying, and seems to mean that they are having a very good time. An occasional part of their

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noisy ways, heard usually when they have gone into their chambers, is a sort of subdued chuckle, with sound suggestive of the grinding of molars, that seems to be an expression of good feeling and contentment.

Such are some of their usual notes, but there is one other that is perhaps best of all. This is their loud, clear, exultant call, uttered when the bird is perched, with an air of great alertness, when his fellows are cleaving the air for the sheer pleasure of artistic flying—the ringing 'come-home' call and the joyous welcome to the swift flyer that is first to reach the goal.

III. THE SIZE OF ROOMS IN MARTIN-BOXES

By J. J. SHERIDAN, St. Joseph, Mo.

It seems to me some steps should be taken to unify sentiment on building bird-nesting boxes for Purple Martins. An exhibition of bird-boxes being held at our public library this week shows the greatest variety of ideas as to the proper size to construct these boxes, one handsome structure containing forty apartments had the rooms 3½ x 5 inches in dimensions, while another had them about 10 inches each way. That this condition should be corrected in some manner goes without saying, but the leading authorities are as widely apart. For example, in your January-February issue of 1914, a writer on 'How to Start a Purple Martin Colony' says the rooms should be 8 x 8 x 10 inches, while Mr. Ned Dearborn, a Government expert, says the rooms should be 6 x 6 x 6 inches. An authority on the subject says the Purple Martin is 7.8 inches in length. If this is a fact, then it stands to reason a room should be at least large enough to admit the entire bird, and 8 x 8 inches would be none too large. There is no doubt but the bird will adapt himself to 6 x 6-inch quarters if he can do no better, but he will abandon the restricted quarters when he can find rooms large enough to accommodate him. I can recall several instances where this has happened. My boxes are built with rooms 8 x 8 x 6 inches, and I think this compromise will come as near meeting the requirements of the birds as any size I have seen mentioned—at least my colonies stay with the boxes, and that is a good argument.

IV. HIGH MORTALITY AMONG THE PURPLE MARTINS IN WESTERN PENNSYLVANIA DURING APRIL, 1917

By THOS. L McCONNELL, McKeesport, Pa.

The old saying about the arrival of spring birds bringing good weather has no foundation upon actual facts. The warm spell in March, 1917, brought back the Purple Martins ahead of time, and the subsequent cold rainy weather almost annihilated the early migrants. Insectivorous birds that feed, like the Swallows, entirely on the wing and not off the trees or on the ground, require warm, fair weather.

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On May 20 the writer removed seven dead male Purple Martins of mature plumage from his bird-house at Kittanning, Pa. This colony is about twenty years old, and for years has been made up of about fourteen pairs of older birds, all in high plumage, and this is the first year that many birds in second-season plumage are in evidence. Last year's young birds do not return until May, and usually cannot get room in a well-established colony, hence seeking new homes. It is estimated that between one-third and one-half the older Martins perished during April.

Upon going back over the daily weather reports for March, April, and May for Pittsburgh, Pa. (45 miles south of Kittanning), the following exceptional conditions were found:

It rained almost continuously from April 4 to 8, inclusive, with the highest temperature for each day under 50°, except on the 5th, when it climbed to 61°. From the 9th to 11th, inclusive, it was fair and cold, the highest daily temperatures being 40°, 34°, and 49°. During the remainder of the month there were shorter periods when the Martins were unable to feed.

The fact that all the dead birds found were males leads to the conclusion that the high mortality must have been early in the season, as the males precede the females in migration. The date of arrival for the Kittanning colony is not known, but it is known that the Martins returned seven to ten days ahead of their usual time throughout the state. The first Martin, male, reached McKeesport on March 26, and many first arrivals were seen on the 24th at Waynesburg, Pa.

Referring to the mortality among the Martins at McKeesport, the writer's present home, there are now only six to eight birds where sixteen to twenty were seen in previous years. The two big local colonies are nearly wiped out.

While this calamity is only a light killing when compared to the almost total destruction of Purple Martins throughout the New England States in 1903, had the bad weather come two or three weeks later there would have been few Martins left to replenish our colonies.

V. A COLLAPSIBLE MARTIN-HOUSE

By G. HILLER, Cincinnati, Ohio

For the benefit of some of your readers, I enclose herewith pictures of a 'Homemade Martin-House,' made of soap-boxes, the lower story being somewhat smaller, thus giving the effect of a Swiss cottage. The house is hinged together and collapsible. The removable pins in the hinges allow the house to be taken apart for cleaning. The side of the house where the openings are for the nesting chambers is provided with hinged porches, thus making it possible to keep the house closed to Sparrows until the proper tenants, the Martins, arrive. The partitions inside are worked in grooves, thus allowing a thorough cleaning. The pole or pipe is made of two

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pieces, 2 and 1½ inches in diameter respectively, with a collar near the top from which three thin cables run to as many cement anchor posts. The house has a 2-foot pipe fastened to the bottom, fitting snugly in the main pole, the latter resting on a firm cement base, 5 feet in the ground, with a steel shafting in center extending 3 feet above base, over which the main pole slips in place. In winter, the pole with house is taken down to be put in a safe place indoors, to preserve it from the ravages of winter. While we have other bird-houses in our garden, this is, by far, the prettiest of all, and its cost is very little.

COLLAPSIBLE MARTIN-HOUSE

A MARTIN HOME IN CINCINNATI

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Notes on the Tree Swallow

By VERDI BURTCH

With photographs by the author

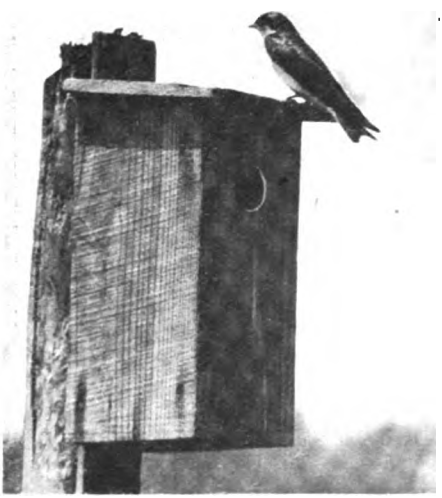
MALE TREE SWALLOW
Watching female as she leaves the nest, almost turning over as she swings away.

THIRTY years ago Tree Swallows were very common over Lake Keuka, at Branchport, N. Y., and from early spring, often before the ice had left the lake, until mid-September, these graceful Swallows coursed over the marsh and skimmed over the waters of the lake, their beautiful, irridescent blue backs gleaming in the sun. In those days there were, bordering on the lake and marsh, many old willow, elm, and maple stubs with their deserted Woodpecker holes, and in these the Swallows made their nests.

As the years passed, the old stubs were cut, or crumbled and fell until all were gone, and the Swallows, after spending the early spring with us, passed on to some more favorable locality to rear their young.

In the spring of 1915 I saw a pair of Tree Swallows investigating a box that I had put up on my lot for Bluebirds. This box was more than 50 rods from the lake, and, although the Swallows hung around it for several days, it did not seem to suit them exactly and was not used. However, their presence about the box gave me an idea which I carried out the following spring, when I made boxes purposely for the Swallows, placing them on the sides of posts which were driven out in two or three feet of water in the marsh. This was done April 28, when there must have been twenty or more pairs of Tree Swallows flying about.

The very next day I saw a Swallow enter one of the boxes, and on May 4 a pair of Swallows were carrying nesting materials into one of them. This same day



MALE TREE SWALLOW AT HOME

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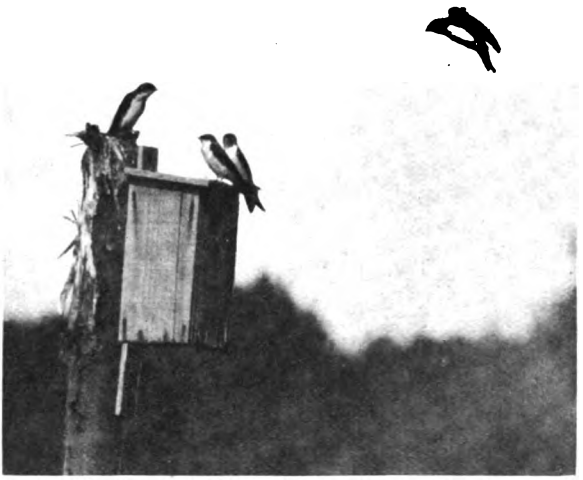
I grafted an old Downy Woodpecker's nest on to the top of another post which was driven out in the water, and before I had rowed my boat 15 feet away from it, a female Tree Swallow had alighted and was peering into the hole, while her mate was hovering overhead. The hole seemed to suit, as they almost immediately took possession and began to carry nest materials into it.



A TREE SWALLOW FAMILY.—THE MOTHER RETURNS

Although they began nest-building thus early, it was done in a rather desultory manner, and they did not appear in real earnest until the latter part of May. By June 20 they were feeding young, both parents working diligently and supplying an abundance of food, various small dragon-flies forming a large part of it. Both parents were seen carrying excreta from the nest, flying with it out over the water, where they dropped it 5 or 6 rods from the nest.

A record of a typical half-hours' observation at the nest June 30 follows: Female feeds young while the male sits on top of the stub resting and yawning several times, then he flies away and soon returns with a small dragon-fly, which he takes into the nest and almost immediately reappears with excreta which he carries out over the water, dropping it some distance away. Soon he comes again with another dragonfly, alights at the hole, but flies away again without entering; does this several times, then enters. Appears in the opening, where he remains several minutes until the female comes. She goes in and stays there. Soon he comes back with a dragon-fly, goes part way in, backs out again, and waits for the female to crowd out past him when he goes in.

Of the nine boxes placed in the marsh this year, five were occupied.

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After the nesting-season is over, the Tree Swallows, with hundreds of Barn, Cliff, and Rough-winged Swallows, gather in the evenings over the waters of the lake and creek, where they skim lightly over the surface of the water or fly high in the air, gathering their suppers from the hosts of insects flying there. At night they roost in the cat-tails, many of them close to the water's edge. A few alight at a time, those already there welcoming the others with soft twitterings as they come; then there are constantly some flying up to take a few more turns in the air, and one too many will alight on the same leaf, causing it to bend to the water, when all fly up and alight in another place. So it is really quite dark before all get settled for the night.

The fishermen here use an acetylene light with reflector, and we sometimes get one of these and row down the creek, and, by going carefully and throwing the light on the cat-tails, the Swallows can be seen, with heads tucked under their wings, asleep. Rowing carefully along, we were able to pick them from the flags with our hands.

The Tree Swallow is very fond of the water and will be found most abundant about a lake or stream where there are many dead trees, with their old Woodpecker holes, and, as I have shown, they can be easily induced to use boxes put up by man.

FEMALE LOOKING OUT FROM NEST

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TO THE SONG SPARROW

By EDMUND J. SAWYER

'Ground Bird' we called you in our barefoot days,
When Spring impelled us on our truant ways.
How well we knew and loved those happy lays
    You caroled from the 'pussy-willow' bough!
In feather, form, and note you are the same;
Old Time has overlooked you, soul and frame;
The flight of years has changed you but in name;
    'Ground Bird' of old, we call you Song Sparrow now.

Now flitting and skulking by the brook,
Calling and peering from the grassy nook,
Hopping and hiding, you have every look
    Of sprightly youth you had in days of yore.
Your merry song, so sweet, so glad and free;
Your pose atop the fence or willow tree;
Your long, loose tail, abob—all bring to me
    The days that were, the days that are no more.

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From morn till night you sing, unlike the Thrush
Remote within the woodland's shade and hush,
Nor like the soaring Lark whose songs outgush
But reach us faintly like the songs in dreams.
Banks of the tinkling stream, the grassy dell,
The homely wayside nooks of field and fell—
Familiar places that we love so well—
These are at once thy chosen haunts and themes.

Of gorgeous birds in fabled happy lands,
Or flying over palms on coral strands,
Where tropic seas and isles the view commands,
Let others sing; their splendors I despise.
The Eden of your songs my feet have trod;
The Heaven that you praise is just the sod;
Yet somehow I seem nearer to my God,
Brown bird, with you, my Bird of Paradise!

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How to Make and Erect Bird-Houses

By HUBERT PRESCOTT, Ashland, Ore.

PEOPLE are beginning to understand more clearly the relationship of birds to mankind, and, as a result, they are putting forth greater effort toward the protection and preservation of bird-life.

One good method of bird preservation is the building of bird-houses, and, as far as individual effort is concerned, a good deal of it has been directed in this line. Some have met with success and some with failure, the reason for the failures being that a very large percentage of the bird-houses built are worthless because they are wrongly constructed.

It is well that we should put up houses for the birds, but first we must understand a little of bird nature so that we may better know what kind of houses are suitable.

Originally, birds which nested in cavities either used cavities in trees caused by rotting of the heart of the tree, or they made their own nest cavities or used those made by other birds or animals.

The Woodpecker is, perhaps, the best example of a bird which digs its own nest cavity. If we will observe we will find that the holes made by Woodpeckers for nesting purposes are generally facing the east or south, and, if in a horizontal or slanting limb, they will always be on the underside.

Facing the east or south they are less exposed to storms than they would be if they were facing the north. They are on the underside of a limb for the same purpose, and also as a protection against animals or other birds, being then difficult of access and out of view. On observation we will find that the bottom, or floor, of the nest cavity of a Woodpecker is 6 inches or more below the entrance-hole. This serves several purposes: It gives the bird room to sit without blocking the entrance; it serves as a protection against enemies; and it prevents the young from leaving the nest too soon.

Thus, as a result of natural selection, birds have acquired the instinct to build in nest cavities of this kind, and if we apply a few of these particulars in building bird-houses, much better results will be obtained than we would get otherwise.

One of the greatest, yet most common mistakes is making bird-houses like the houses of human beings, with the entrance on a level with the floor.

Birds do not value things from the esthetic standpoint. They prefer an old weather-worn bird-house to a highly painted one which shows skillful workmanship. The kind of nesting-site they choose is of vital importance to them, and they select it for the protection and service it affords. Bird-houses can be made out of hollow trees, kegs, slabs, and boards of any kind.

Another very common mistake is that of making the bird-houses or rooms too large. For small birds which nest in solitary pairs, such as Wrens, Chickadees, Bluebirds, etc., a room 4 inches wide by 5 inches long by 7 inches high

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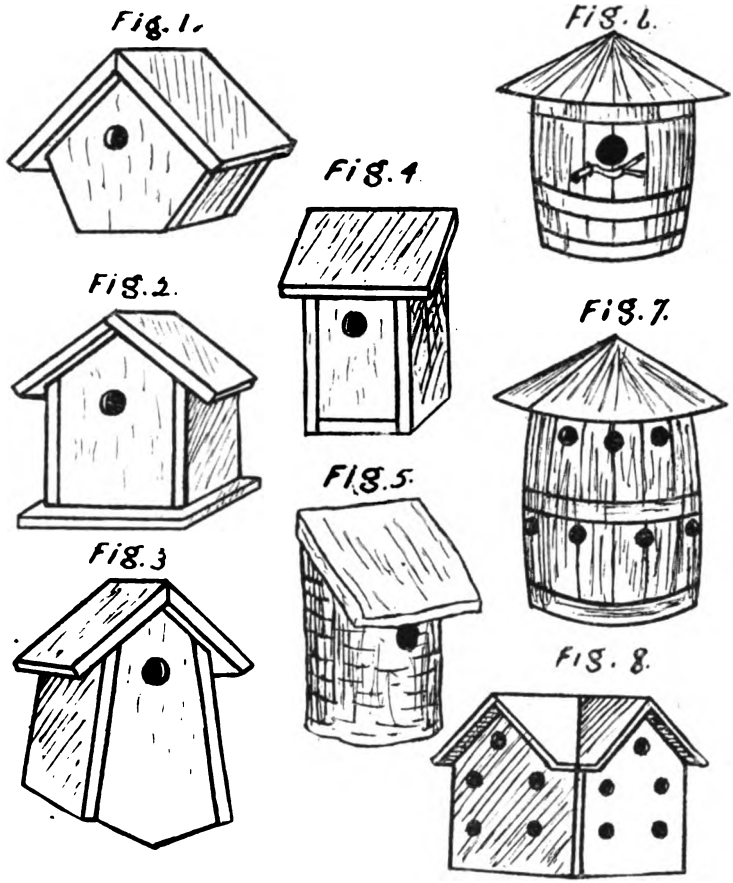
is large enough. For Flickers, Owls, Sparrow Hawks and other larger birds, the rooms should be about 6 inches wide by 7 inches long by 14 inches high. For Martins and other birds which nest in colonies, a bird-house can contain as many rooms as desired, each room having about the same dimensions as given for the first.

It is a good idea to have the side or the top of the bird-house hinged or removable, so that the old nest can be cleaned out, thus making room for a new



SUGGESTIONS FOR BIRD BOXES

one for the following summer, and the birds will return to rear a brood year after year.

A bird-house should not be placed less than 6 feet from the ground—10 feet or above is preferable. They can be placed on barns, sheds, fence-posts, or hung from trees.

Birds always prefer houses more or less in the open, so that they can detect any intruders which may come that way. They should not be placed amid the

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thick foliage and branches of trees—not that the bird-house should be placed in a conspicuous place, but the view from it should be clear.

A very suitable method is to bore a hole in a barn or shed and place the bird-house on the inside. This is especially suited for observation and experimental purposes.

Several different types of very satisfactory bird-houses are shown in the accompanying diagrams. Figures 1, 2, 3, 4, 5, and 6, are for birds nesting in solitary pairs; 7 and 8 for birds which nest in colonies.

These are a few of the main particulars in building and erecting bird-houses, and with a little effort directed in the right way, we may forever have these feathered songsters about us, to add life and grace to our surroundings, to fill the air with song, and to glean the foliage of harmful insects.

Photography at Feeding-Stations

By C. BREDER, Jr., Newark, N. J.

A NATURAL outlet for the city-dwelling bird-lover's enthusiasm is the establishment of a back-yard feeding-station. As the location of my home is not the least suburban, all the birds that deigned to visit mine were gladly welcomed. Blue Jays, Slate-colored Juncos, Hairy and Downy Woodpeckers, and Brown Creepers were among the more regular visitors, and I considered myself rather successful. With the coming of these birds came the desire to record their visits photographically. This was not easily accomplished because of their unusual timidity, due to the man-made surroundings and the daily onslaughts of the horde of House Sparrows that infested the place. Seeing that the photographs that could possibly be taken would be few and far between, with the probable result of driving the birds off altogether, the idea was partly given up, but still the desire to picture our winter residents hung on.

Early in the fall of 1916 the idea struck me of establishing a woodland feeding-station for photographic purposes—going to the birds if the birds would not come to me. A companion nature-lover and myself, on October 1, decided to take a bird walk through some rather unfamiliar territory in the nearby countryside. After about one hour's trolley-ride into the suburbs and fifteen minutes' stiff hiking, we came to a beautiful bit of wooded farmland. Several trips were made to it before the winter set in, and we found it well supplied with bird-life and were enabled to add a number of new names to our lists. On the 14th we decided at just what points to establish the much-talked-of feeding-stations.

The first opportunity to do this came on the 21st. We went armed with a brace and bit, and suet that had been run through a meat-chopper. Stations were located at five points. One was in a large dead chestnut tree. It consisted

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of ten holes, 5/8 inch in diameter, arranged in the form of a triangle. While no bird photographs were taken there, it was used very much by the birds of the vicinity. Another was located in a dead sapling of the same species, but for some unknown reason the birds refused to use it, except in the very coldest weather. A third was in the cracked limb of another blighted chestnut, about 10 feet from the ground. It held more food than the rest and was always emptied before the others. For a long time it was a mystery as to what manner of creature could dispose of so much food in such a short time. Blue Jays were suspected, but not many were in this neighborhood, and nothing could be proved against them. It was not until the winter had begun to break up that we learned that we had been feeding a flock of about five Crows. I believe a feeding-station for Crows is unique, even if it is unintentional. Many Brown Creepers were attracted to suet forced into the crevices in the bark of a living oak. Some photographs of Brown Creepers on it were taken by my companion, but they proved to be a little too perfect examples of protective coloration. The fifth and last station was only a fence-post with an ample crack into which suet was forced. It was to this that by far the most birds were attracted, and where the balance of the studies were taken.

TUFTED TITMOUSE

The hunting-season opened, and on November 11 we saw only a solitary Song Sparrow, and it was not before the 18th that all the suet was gone. We replenished it that day, but still the only birds we saw were two Song Sparrows and two Brown Creepers. Our next trip was on December 2, and the hunting season was to be over on the 15th. Already the great number of 'sportsmen' that infested the woods was beginning to thin out, and the birds were returning to the section. It was this day that I first saw the birds at the food. On the oak tree were two Brown Creepers and a White-breasted Nuthatch. I refilled the stations twice before the 23rd, when I took my trusty old plate camera. I focused on the fence-post, but the birds kept their distance, and I took home no portraits. I used an electric device to operate the shutter from a distance for all of these pictures.

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The day after Christmas, a biting cold day, I had the camera set by 9 o'clock. Forty minutes later I took my first feeding-station picture—a Brown Creeper. There were two on the post at the time, but one was out of range of the lens. A Downy wanted the food but feared the staring Cyclops that guarded the treasure. He would swoop down and make me believe that he was about to alight, when off he would go, only to make another similar swoop. The single Creeper was the only picture I took that day.

On December 30, two White-breasted Nuthatches tried the same maneuvers as the Downy, keeping me on the jump for naught. A Brown Creeper was 'fussing' around also, but refused to get in a position worth wasting a plate on. But then something happened. A hurried chattering cry—a flutter of wings—something landed on top of the post and was gone again, flitting up into the tree behind which I was hiding. Then I saw it to be a Tufted Titmouse. But that is not all. I had pushed the button in that fraction of a second that he was on the post-top. The most that I could hope for on the plate was a blur of wings. On developing it I was more than delighted. Later a Hairy tried diving for the food, but without success for either him or me. That ended my year's experiences. It began to snow a little, and I could not have stood still a moment longer because of the intense cold.

BROWN CREEPER

The next trip taken when the sun made bird photography possible was January 6. Numbers of Chickadees were around the empty post when I arrived, and picked up the crumbs that dropped from my hand as I stuffed the

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crack with suet. Three photographs were taken of these confiding little fellows, but one turned out a complete failure. Another Brown Creeper picture was the day's remaining bit of success.

On the 27th, Tufted Titmice chattered at my attempts but refused to have their image imprisoned in a piece of 4 x 5-inch glass, despite all my coaxing. February 10 the last attempt was made but without success.

In this way the winter of the past year was spent pleasantly, healthfully, and profitably—pleasantly by association with nature, healthfully by outdoor activity in all sorts of weather, and profitably by the making of valuable additions to my knowledge of bird-life. Of all the exposures made, only two were failures, and both those because of some accident in manipulating the camera. This year more elaborate preparations will be made and better results looked for.

Holbœll's Grebe in Connecticut

By WILBUR F. SMITH. South Norwalk, Conn.

THE largest number of Holbœll's Grebes that I have known to be in this section occurred in the spring of 1916, and as none of the books to which I have access give much information concerning their food habits or their behavior when on land, I was glad when exceptional circumstances gave me an opportunity to observe both at close range.

The first Grebe reported was found on March 19, on the snow far from the shore, and, as so often happens, the party finding it ran for a gun and shot it. Fortunately I was able to save the skin for Birdcraft's Museum.

On March 24 the ice began to break up in Rowayton harbor, and, in a small open space near the docks, just behind some fishermen's boats in which they were repairing an engine, two of these Grebes were feeding. They fished continually, and hunger may have had something to do with their apparent lack of caution, boldness, or confidence in man, as at times they came up within 15 feet of the boat in which the men were working.

One of the men told me that he saw one catch a large smelt, and that when he went on deck in the night "they were still fishing and seemed to be always fishing." While I watched them they were feeding on small flounders, and occasionally they would catch one too large to handle in the open water, whereupon they would swim into shallow water or to the edge of the ice, and strike and pound the fish into condition to eat.

On March 26 three of us went to Rowayton to see the Grebes. We found that the ice had gone farther out of the harbor and that the Grebes were fishing farther off shore, where three more had joined them. A number of Herring Gulls were sitting around on the ice and floating down on detached cakes, and, as it proved, watching the Grebes as intently as we were, for when a Grebe

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would come up with a fish, one or more of the Gulls would pounce upon it for the food, and the Grebe would have to dive to escape with its prize. Generally they saved their fish by coming up at a considerable distance, though the Gulls succeeded in worrying a fish from the Grebes at times.

They were wonderful divers, at times seeming to 'just disappear,' but, when really fishing, they would throw themselves forward and almost out of the water with the violence of their effort, and I wondered if the depth of water had anything to do with the manner of diving. With watch in hand, we timed them under water, and on two occasions one Grebe was down fifty-five seconds—forty-five to fifty-five seconds was the average.

HOLBŒLL'S GREBE
Photographed by Wilbur S. Smith

On April 15 one was seen in Saugatuck Bay, and on April 20 one was found in a yard in the east end of town. I liberated it, first photographing and studying its actions and posture on land. It sat forward on its breast, and it seemed to me the bird realized its helplessness, for, when placed on the lawn with no one near, it made no effort to escape and kept up a constant calling. A small child with a stick could have killed it, though it struck viciously with its long bill when anyone came within reach, but the blow did not have the force or power of that of a Heron of equal size.

From its actions one might have thought it was wounded, but when it saw the salt water—possibly first sensed it—a marked change took place in the Grebe's actions, and it struggled violently to escape. Placed on the ground some distance from the shore it went floundering along, propelled by wings and feet, until it reached the water, when it was the perfection of graceful motion. It dove and preened and dove again, raised high on its feet and shook itself and flapped its wings, dove again, and then headed for open water at a pace that proved it to be in good condition.

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The Migration of North American Birds

SECOND SERIES

III. THE SUMMER AND HEPATIC TANAGERS, MARTINS,* AND BARN SWALLOWS

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

(See Frontispiece)

SUMMER TANAGER

There are two subspecies of the Summer Tanager, an eastern and a western, which of course occupy separate areas in summer but which mingle more or less during the migrations and in winter.

The **Summer Tanager** (*Piranga rubra rubra*) breeds in the eastern United States, north to Delaware (formerly to New Jersey), southern Ohio, southeastern Wisconsin, and southeastern Nebraska; west to eastern Kansas and central Texas; and south to northeastern Mexico, southeastern Texas, southern Mississippi, and central Florida. It winters in Central and South America, south to Guiana, Ecuador, and Peru, and north to Yucatan and central Mexico. It is also of casual occurrence north to Nova Scotia, New Brunswick, Quebec, and Ontario; and is accidental in the Bahama Islands.

Cooper's Tanager (*Piranga rubra cooperi*) breeds in the southwestern United States and northern Mexico, north to central New Mexico and central Arizona; west to southeastern California; south to northern Durango and central Nuevo Leon; and east to central western Texas and eastern New Mexico.

In the following migration tables all records of Cooper's Tanager are indicated by an asterisk (*); all the others, therefore, should be considered as referring to the eastern Summer Tanager.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Amelia Is., Fla.	2	April 13	April 12, 1916
Chipley, Fla.	2	April 5	March 21, 1886
Tallahassee, Fla.	4	April 5	March 30, 1902
Savannah, Ga.	13	April 9	March 29, 1916
Kirkwood, Ga.	14	April 11	April 3, 1894
Charleston, S. C.	7	April 13	April 5, 1912
Long Island, Ala.	4	April 17	April 12, 1916
Biloxi, Miss.	4	April 4	March 31, 1904
New Orleans, La.	13	April 5	April 1, 1904
Brownsville, Tex.			February 11, 1853
San Antonio, Tex.	5	April 10	April 8, 1890
Kerrville, Tex.	16	April 11	April 5, 1913
Gainesville, Tex.	7	April 14	April 10, 1885

*The Purple Martin and Barn Swallow were figured in BIRD-LORE for September-October, 1917, before this Second Series was begun. They are treated here to make our migration records of the Swallows of North America complete. The remaining species of the family were figured and treated in BIRD-LORE for November-December, 1917.—EDITOR.

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
State College, N. M.*			May 7, 1915
Tombstone, Ariz.*	3	April 27	April 15, 1911
Tucson, Ariz.*	2	April 24	April 22, 1909
Fort Mojave, Ariz.*			April 25, 1861
Raleigh, N. C.	31	April 20	April 6, 1888
Weaverville, N. C.	6	April 23	April 20, 1894
Variety Mills, Va.	13	April 27	April 21, 1906
Washington, D. C.	16	May 1	April 18, 1896
Waverly, W. Va.	4	April 29	April 25, 1904
Athens, Tenn.	8	April 17	April 10, 1906
Eubank, Ky.	10	April 19	April 15, 1891
Helena, Ark.	24	April 14	April 7, 1907
Lawrence, Kans.	2	May 9	May 1, 1906
Denver, Colo.			May 12, 1873
Philadelphia, Pa.			May 7, 1884
Sing Sing, N. Y.	2	May 10	May 8, 1885
Chillicothe, Ohio	3	April 25	April 24, 1904
Bloomington, Ind.	8	April 26	April 18, 1886
Odin, Ill.	6	April 25	April 21, 1895
St. Louis, Mo.	8	April 24	April 9, 1909

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Sing Sing, N. Y.			September 26, 1885
Philadelphia, Pa.			September 30, 1884
Chillicothe, Ohio			October 1, 1904
Bloomington, Ind.			September 28, 1885
Odin, Ill.	5	September 18	October 1, 1889
St. Louis, Mo.			October 5, 1906
Washington, D. C.	7	September 14	September 19, 1906
Variety Mills, Va.			September 19, 1884
Weaverville, N. C.	2	October 4	October 7, 1891
Raleigh, N. C.	10	September 20	October 30, 1886
Spencer, W. Va.			September 18, 1909
Athens, Tenn.	6	October 2	October 14, 1902
Eubank, Ky.	6	September 24	October 10, 1890
Charleston, S. C.	5	September 28	October 14, 1911
Kirkwood, Ga.			September 16, 1902
Savannah, Ga.	4	September 21	October 20, 1908
Tallahassee, Fla.	3	September 16	October 26, 1904
Fernandina, Fla.			October 20, 1906
Biloxi, Miss.			October 3, 1912
Helena, Ark.	3	September 24	October 2, 1895
New Orleans, La.	4	October 19	October 27, 1899
Chloride, N. M.*			September 15, 1915
San Francisco River, Ariz.*			October 10, 1873
Whetstone Mountains, Ariz.*			September 27, 1908
Rincon, Ariz.*			September 23, 1907
San Clemente Is., Calif.*			October 11, 1907

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HEPATIC TANAGER

The **Hepatic Tanager** (*Piranga hepatica*) is one of the Mexican birds which reaches the United States only along the southwestern border. Owing to its limited distribution and to its frequenting the less inhabited parts of the United States there are comparatively few data on its migration. The range of the typical subspecies (*Piranga hepatica hepatica*), the only one occurring in the United States, extends from central western Texas, central New Mexico, and northwestern Arizona south over the table-land of Mexico to Guatemala. Another race, the Mexican Hepatic Tanager (*Piranga hepatica dextra*), occupies eastern Mexico from the state of Vera Cruz north to Nuevo Leon.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Hachita Grande Mountain, N. M.			May 19, 1892
Huachuca Mountains, Ariz.			April 11, 1902
Tombstone, Ariz.			April 20, 1912
Paradise, Ariz.	2	April 27	April 24, 1913

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Apache, N. M.			September 14, 1886
Huachuca Mountains, Ariz.			October 25, 1907
Tombstone, Ariz.	2	September 2	September 20, 1913

PURPLE MARTIN

The Purple Martin has a wide distribution and is well known wherever it lives. It is the earliest spring migrant to enter the United States from the south, so early, in fact, that we can with difficulty believe that it does not pass the winter in the United States. There is apparently, however, a period of a month or two during December and January when it is not found even in southern Florida, although it appears sometimes as early as January 20, and has been seen as late as December 18. The latter, however, must be regarded as an unusually late date. There are two subspecies, both of which summer in the United States.

The **Purple Martin** (*Progne subis subis*) breeds in temperate North America, north to Nova Scotia, New Brunswick, northwestern Ontario, Manitoba, and Montana; west to Idaho and Arizona; south to Tepic and Vera Cruz, Mexico, and to southern Florida; migrates through Central America and northern South America; winters in Brazil; and occurs accidentally on the Bermuda Islands and in Great Britain.

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The **Western Martin** (*Progne subis hesperia*) breeds in the Pacific Coast region of North America from southwestern British Columbia to southern Lower California; and occurs during migration in Central America. Its winter home is not known, but is presumably South America. In the following migration tables an asterisk (*) indicates the records belonging to the Western Martin.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Orlando, Fla.	10	February 8	January 27, 1913
Melrose, Fla.	7	February 4	January 20, 1901
Tallahassee, Fla.	9	February 20	January 29, 1911
Savannah, Ga.	14	March 18	March 5, 1911
Charleston, S. C.	23	March 3	February 16, 1907
Carrollton, Ala.	5	March 9	March 9, 1888
Biloxi, Miss.	6	February 13	January 29, 1912
New Orleans, La.	12	February 14	January 31, 1894
Kerrville, Tex.	16	February 24	February 11, 1909
Gainesville, Tex.	5	March 1	February 27, 1889
Huachuca Mountains, Ariz.			April 22, 1902
Stockton, Calif.*	9	March 6	March 1, 1879
Raleigh, N. C.	18	April 22	March 16, 1907
New Market, Va.	29	March 28	March 14, 1898
Washington, D. C.	22	April 1	March 9, 1908
Mardela Springs, Md.	6	March 31	March 18, 1889
French Creek, W. Va.	5	April 11	April 9, 1890
Eubank, Ky.	12	March 21	March 14, 1887
Athens, Tenn.	7	March 21	March 17, 1907
Helena, Ark.	30	March 4	February 18, 1897
Onaga, Kans.	17	April 6	March 26, 1900
Loveland, Colo.	2	April 22	April 21, 1887
Morristown, N. J.	15	April 17	April 8, 1890
Berwyn, Pa.	14	April 19	March 27, 1913
Oberlin, Ohio	23	April 8	March 25, 1910
Fort Wayne, Ind.	13	April 4	March 19, 1907
Chicago, Ill.	21	April 12	March 23, 1884
St. Louis, Mo.	11	March 21	March 15, 1888
Keokuk, Iowa	20	March 30	March 17, 1903
Sioux City, Iowa	13	April 13	April 4, 1900
Lincoln, Neb.	3	April 9	April 3, 1900
Jewett City, Conn.	30	April 13	April 5, 1912
Block Island, R. I.	3	April 17	April 10, 1915
Boston, Mass.	14	April 29	April 6, 1907
Norway, Maine	16	April 21	April 16, 1914
Tilton, N. H.	6	April 25	April 20, 1906
Rutland, Vt.	11	April 26	April 16, 1915
New York, N. Y.	9	April 18	March 21, 1907
Saratoga Springs, N. Y.	18	April 16	April 6, 1912
Detroit, Mich.	16	April 19	April 5, 1912
Ann Arbor, Mich.	20	April 12	March 23, 1907
Madison, Wis.	23	April 13	March 29, 1897
Lanesboro, Minn.	11	April 9	Feb. 14, 1890† April 1, 1888
Sioux Falls, S. D.	4	April 19	April 9, 1910
Larimore, N. D.	10	May 6	April 19, 1886
Great Falls, Mont.	3	May 14	May 10, 1906

† Accidental at this early date.

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Tacoma, Wash.*	3	April 11	April 1, 1905
Scotch Lake, N. B.	15	May 2	April 21, 1900
Chatham, N. B.	25	May 10	May 2, 1887
Quebec, Quebec	6	May 5	April 26, 1901
Montreal, Quebec	11	May 2	April 9, 1911
London, Ont.	11	April 17	April 9, 1900
Ottawa, Ont.	32	April 24	April 13, 1909
Margaret, Man.	8	May 11	May 2, 1914
Aweme, Man.	10	May 11	April 25, 1896
South Qu'Appelle, Sask.	8	May 17	May 5, 1904
Red Deer, Alta.	2	May 23	May 7, 1893
Vancouver, B. C.*	2	May 10	May 6, 1889

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Scotch Lake, N. B.	7	August 29	September 12, 1912
Quebec, Quebec			September 6, 1894
Montreal, Quebec	11	August 22	September 25, 1897
Ottawa, Ont.	26	August 21	September 12, 1907
Margaret, Man.			August 20, 1911
Aweme, Man.	6	August 13	September 11, 1897
South Qu'Appelle, Sask.	3	August 11	August 25, 1911
Lewiston, Maine	6	August 20	September 4, 1901
Lancaster, N. H.			September 2, 1909
Tilton, N. H.	4	August 20	August 24, 1907
Rutland, Vt.			September 4, 1914
Howard, Mass.	3	August 22	September 12, 1908
Block Island, R. I.	3	September 5	September 15, 1914
Hartford, Conn.			September 27, 1901
Geneva, N. Y.	2	September 2	September 12, 1915
Saratoga Springs, N. Y.	15	August 13	August 27, 1902
Vicksburg, Mich.	11	August 30	September 16, 1907
Madison, Wis.	5	August 25	September 6, 1912
Lanesboro, Minn.	7	September 1	September 21, 1911
Sioux Falls, N. D.	4	August 24	September 2, 1910
Morristown, N. J.	13	August 31	September 11, 1911
Berwyn, Pa.	9	August 29	September 24, 1896
Oberlin, Ohio	8	August 20	September 30, 1907
Indianapolis, Ind.	4	September 12	October 3, 1913
Chicago, Ill.	7	September 12	September 27, 1906
Keokuk, Iowa	12	September 3	October 11, 1892
Concordia, Mo.	7	September 2	September 11, 1913
St. Louis, Mo.	2	September 20	September 24, 1897
Lincoln, Neb.			September 10, 1899
Washington, D. C.	10	August 25	September 14, 1889
New Market, Va.			August 14, 1915
Raleigh, N. C.	6	August 20	September 9, 1907
French Creek, W. Va.	4	August 9	August 16, 1891
Eubank, Ky.	7	August 26	September 4, 1887
Knoxville, Tenn.	21	September 13	October 5, 1889
Onaga, Kans.	17	August 20	September 28, 1896
Charleston, S. C.			October 6, 1911

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FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Savannah, Ga.			August 30, 1909
Tallahassee, Fla.	3	September 18	September 27, 1901
Orlando, Fla.			December 18, 1915
Carrollton, Ala.	3	August 24	August 28, 1886
Biloxi, Miss.	3	August 23	October 9, 1910
New Orleans, La.	4	October 8	October 22, 1894
Austin, Tex.	2	September 17	September 28, 1893
Tombstone, Ariz.			September 10, 1909
Stockton, Calif.*			September 6, 1878

CUBAN MARTIN

The **Cuban Martin** (*Progne cryptoleuca*) is a native of the island of Cuba, but is of accidental or occasional occurrence in southern and central Florida. The only authentic records for the United States are one specimen taken at Cape Florida on May 18, 1858, and another specimen, without date, obtained at Clearwater, Fla.

GRAY-BREASTED MARTIN

The **Gray-breasted Martin** (*Progne chalybea*) ranges from northeastern Mexico and extreme central southern Texas, south through Mexico, Central America, and South America, to Bolivia and southern Brazil. The only records for the United States are a specimen taken at Rio Grande, Tex., on April 25, 1880, and another obtained at Hidalgo, Tex., on May 18, 1889.

BARN SWALLOW

The **Barn Swallow** (*Hirundo erythrogastris*) is one of the most familiar and widely distributed North American birds. It breeds north to central Quebec (southern Ungava), southern Manitoba, northern Mackenzie, and northwestern Alaska; south to North Carolina, Arkansas, southern Texas, Guanajuato, Jalisco, and Tepic, Mex. It winters from southern Mexico, through Central America and South America to Brazil, Argentina, and Chile. In migration it passes through the Bahamas and the West Indies, and is of accidental occurrence in Greenland, the Bermuda Islands, and the Galapagos Islands.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Dry Tortugas, Fla.			April 8, 1890
Amelia Is., Fla.	2	April 11	April 9, 1916
Savannah, Ga.	10	April 5	March 26, 1905
Charleston, S. C.	4	April 10	April 3, 1909

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Biloxi, Miss.	4	April 3	March 27, 1904
New Orleans, La.	12	April 1	March 20, 1895
Eagle Pass, Tex.	4	February 28	February 9, 1887
Gainesville, Tex.	3	March 30	March 21, 1886
Albuquerque, N. M.			April 5, 1914
Tombstone, Ariz.	3	April 10	March 20, 1909
Fresno, Calif.	6	March 14	March 4, 1914
Raleigh, N. C.	19	April 14	April 2, 1888
New Market, Va.	21	April 15	April 5, 1888
Washington, D. C.	27	April 14	March 30, 1890
Cambridge, Md.	6	April 11	April 3, 1913
White Sulphur Springs, W. Va.	8	April 12	April 3, 1892
Athens, Tenn.	6	April 14	April 8, 1906
Eubank, Ky.	10	April 10	April 1, 1891
Onaga, Kans.	24	April 17	April 11, 1899
Boulder, Colo.	7	May 5	April 21, 1912
Morristown, N. J.	17	April 19	April 5, 1890
Philadelphia, Pa.	21	April 18	April 11, 1916
Oberlin, Ohio	23	April 12	March 30, 1897
Richmond, Ind.	13	April 15	April 1, 1893
Chicago, Ill.	22	April 19	April 4, 1897
Concordia, Mo.	5	April 21	April 17, 1914
Keokuk, Iowa	8	April 19	April 3, 1903
Lincoln, Neb.	3	April 24	April 18, 1900
Jewett City, Conn.	30	April 19	April 3, 1892
Providence, R. I.	20	April 25	April 16, 1906
Woods Hole, Mass.	7	April 15	April 1, 1894
Boston, Mass.	22	April 22	April 14, 1904
Phillips, Maine	12	April 28	April 25, 1908
Tilton, N. H.	6	April 27	April 18, 1915
St. Johnsbury, Vt.	17	April 26	April 14, 1890
Ballston Spa, N. Y.	24	April 28	April 16, 1891
New York, N. Y.	26	April 20	April 2, 1882
Ann Arbor, Mich.	25	April 18	April 7, 1888
Madison, Wis.	15	April 22	April 14, 1901
Minneapolis, Minn.	8	April 26	April 9, 1908
Vermilion, S. D.	4	May 2	April 29, 1912
Grand Forks, N. D.	4	May 12	May 11, 1908
Cheyenne, Wyo.			April 21, 1889
Terry, Mont.	7	May 11	May 5, 1894
Great Falls, Mont.	4	May 15	May 12, 1890
Meridian, Idaho	4	May 13	April 25, 1914
Portland, Ore.			April 13, 1897
Tacoma, Wash.	4	April 29	April 24, 1908
Pictou, N. S.	8	May 13	May 1, 1895
St. John, N. B.	12	May 6	April 23, 1890
North River, P. E. I.	5	May 9	May 7, 1887
Quebec, Quebec	13	April 29	April 22, 1906
Montreal, Quebec	5	April 30	April 25, 1894
Ottawa, Ont.	29	April 26	April 17, 1909
Listowel, Ont.	18	April 23	April 15, 1890
Aweme, Man.	13	May 15	May 2, 1915
Indian Head, Sask.	8	May 18	May 7, 1903
Carvel, Alta.	2	May 13	May 6, 1915
Okanagan Landing, B. C.	8	May 8	April 26, 1906
Fort Chipewyan, Mack.			May 20, 1827
Nulato, Alaska			May 13, 1867

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FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Sitka, Alaska			August 22, 1912
Pictou, N. S.			September 1, 1894
St. John, N. B.	10	September 11	September 22, 1893
North River, P. E. I.	4	September 6	September 15, 1887
Quebec, Quebec			August 23, 1894
Montreal, Quebec	6	August 29	September 8, 1912
Ottawa, Ont.	28	September 6	September 29, 1910
Aweme, Man.	14	September 10	September 28, 1907
Okanagan Landing, B. C.	7	September 14	September 20, 1907
Orono, Maine	4	September 5	September 10, 1890
Tilton, N. H.	6	August 28	August 31, 1911
St. Johnsbury, Vt.	2	September 1	September 3, 1915
Woods Hole, Mass.	6	September 18	October 1, 1894
Providence, R. I.	13	August 29	September 19, 1904
Hartford, Conn.	19	September 20	October 9, 1900
New York, N. Y.	12	September 3	September 23, 1904
Ann Arbor, Mich.			September 9, 1915
Madison, Wis.	7	September 16	September 26, 1915
Lanesboro, Minn.	4	August 29	September 8, 1887
Great Falls, Mont.			September 4, 1889
Meridian, Idaho	2	September 14	September 15, 1914
Seattle, Wash.	3	September 18	October 12, 1915
Newport, Ore.			September 16, 1900
Morristown, N. J.	13	September 10	October 1, 1905
Philadelphia, Pa.	5	September 9	October 17, 1915
Renovo, Pa.	19	August 30	September 29, 1908
Oberlin, Ohio	7	September 18	October 15, 1906
Richmond, Ind.	5	September 19	October 13, 1906
Chicago, Ill.	7	September 4	September 15, 1914
Grinnell, Iowa	5	September 8	September 16, 1885
Concordia, Mo.	7	September 20	October 11, 1909
Lincoln, Neb.	2	October 2	October 5, 1899
Washington, D. C.	9	September 8	September 19, 1912
Raleigh, N. C.	9	August 26	September 16, 1886
French Creek, W. Va.	4	August 22	August 24, 1889
Athens, Tenn.	5	September 4	September 15, 1902
Onaga, Kans.	24	September 17	October 5, 1893
Caddo, Okla.			September 19, 1883
Boulder, Colo.	4	September 23	September 29, 1909
Frogmore, S. C.	2	September 20	September 28, 1885
Savannah, Ga.	4	October 15	October 27, 1910
De Funiak Springs, Fla.			September 26, 1909
Amelia Is., Fla.			December 13, 1905
Biloxi, Miss.	5	October 1	October 19, 1905
New Orleans, La.	3	October 24	November 3, 1896
San Mateo Mountains, N. M.			September 20, 1906
San Pedro River, Mex., Bound. Line, Ariz.			October 15, 1892
Fresno, Calif.	2	September 28	October 1, 1905

EUROPEAN CHIMNEY SWALLOW

The **European Chimney Swallow** (*Hirundo rustica*) is a familiar bird in Europe, where it takes the place of our Barn Swallow. In one or more of its forms it occurs in summer or winter over nearly all of Europe, Asia, Africa, and the East Indies, and travels occasionally to Australia. The typical subspecies, *Hirundo rustica rustica*, finds a place in the list of North American birds only by reason of its accidental occurrence in southern Greenland.

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Notes on the Plumage of North American Birds

FORTY-SEVENTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Summer Tanager (*Piranga rubra*, Figs. 1–3).—At the first fall (postjuvenal) molt the young male acquires a plumage which closely resembles that of the female (Fig. 3) but is somewhat more ruddy, with saffron under tail-coverts and a tinge of red on the crown. The extent of the spring (first prenuptial) molt varies greatly among different individuals. Some birds gain a wholly red body and retain only the primaries and secondaries of the winter plumage. Others acquire only a few red body feathers. Between these extremes there is every degree of intergradation, the bird shown in our plate (Fig. 2) representing a not infrequent plumage of this Tanager in its first breeding dress. Birds in this plumage present a most striking appearance and are sometimes reported by inexperienced observers as 'new' or 'strange' species.

At the second fall (first postnuptial) molt, the adult plumage, with wings and tail as well as body red, is donned, and thereafter (unlike the Scarlet Tanager) the bird shows no further change in color.

The female passes from the nestling or juvenal plumage into one resembling that of the adult (Fig. 3). This, it will be observed, is much yellower than that of the female Scarlet Tanager, the wings and tail especially being less fuscous.

Hepatic Tanager (*Piranga hepatica*, Figs. 4, 5).—The nestling of this species is olivaceous above, paler below, and is obscurely streaked with blackish. At the postjuvenal molt, the male in passing into first winter plumage, becomes much like the adult female (Fig. 5). A plumage essentially like this, but with a few more red feathers on the head and throat, is worn by at least some birds in their first breeding dress. I have not a large enough number of specimens to state whether all young males wear this plumage, which corresponds to the first breeding dress of the Summer Tanager.

The adult plumage is apparently secured at the first postnuptial or second fall molt, and is thereafter retained. It may be like that of our plate (Fig. 4), or still show traces of the olive-green dress of immaturity.

After the postjuvenal molt the female presents no color changes in plumage.

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Notes from Field and Study

A Census from France—An Addition to the Eighteenth Christmas Census

Northeastern France.—Dec. 12; 10 A.M. to 4:20 P.M. Cloudy; wind light; temp. about 40°. Partridge, 71; Wood Pigeon, 4; Skylark, 38; Rook, 800; Carrion Crow, 5; Jackdaw, 100; Magpie, 32; Jay, 11; Starling, 83; Goldfinch, 2; Chaffinch, 1; Yellow Bunting, 41; Wren, 3; Tree Creeper, 1; Marsh Tit, 7; Blue Tit, 3; Great Tit, 15; Redbreast, 4; Blackbird, 3. Total, 19 species, about 1,225 individuals. —E. W. CALVERT, Canadian Expeditionary Forces.

The Warbler Wave of the Spring of 1917 at Branchport, N. Y.

The weather last May was very unseasonable at Branchport, N. Y., and the Warblers were a week late, the bulk arriving May 20. Even then it was cold, and I think it was on this account that they were

THE BLACKBURNIAN WARBLER
Photographed by Verdi Burtch

so tame and kept in the lower branches of the trees and even on the ground instead of in the tree-tops as usual.

Many Cape Mays and Tennessees were seen. This was unusual, as some migrations pass without our seeing a single one. The streets were full of Redstarts and Blackburnians. The Redstart, in particular, was noticed by many people who usually take no interest in birds, and many came to me asking about the beautiful little black-and-orange-colored bird that they had seen.

A friend who was working on a new cottage by the lake said that a Redstart alighted on his shoulder, also on his hat and on a rule that he held in his hand, then it flew up and hung before his face on rapid-beating wings. A neighbor brought to me a beautiful male Blackburnian which he found fluttering against the window in his barn. Another neighbor brought a dead male Chestnut-side that her cat had brought in; and I have no doubt that hundreds were killed by cats while they were so close to the ground.

May 20 a male Blackburnian spent nearly the entire day on my lawn and in the garden. He was very busy all of the time, hopping over the ground like a Chipping Sparrow and seemed to be picking up minute insects. It was difficult to get a photograph of him, not that I could not get near enough, for he came up very close to me, even passing between my feet. The trouble was that he came too close, and although I had him on the ground-glass many times, sharp and life-size, and made my exposures in $\frac{1}{75}$ second, he was so lively that when I developed my plates I found my Blackburnian out of focus. Many times he was within a few inches of my hand as I was on my knees holding my camera near the ground. I used eight plates in all, at a distance of from 2 to 6 feet, and got just one good picture.—VERDI BURTCH, *Branchport, N. Y.*

Spring Notes from a New Hampshire Farm

"There is a gorgeous riot of color flying up in front of the tractor; come to the meadow and see!"

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This invitation lured me to the great meadows bordering the Connecticut River whence a sullen 'chug-chug' announced the progress of a farm tractor. That the machine was 'doing its bit' on a New Hampshire farm the increasing acres of brown furrows showed plainly—the large green wheels rose and dipped over the undulating land. I followed them and so made my discovery of a power in the tractor not advertised in commercial catalogues; for even as the Pied Piper charmed the rats of Hamelin with his strange notes, so did this throbbing engine draw the birds. They hopped and flew ahead of the wheels; there were large birds and small birds, birds of brilliant and of dull plumage. Ours is an old farm, dating from Colonial days, when the pioneers left their hill homes (secure from prowling Indians), to raise, in common, crops on these fertile river meadows. Until this spring of 1917 no other power than horse or ox has moved the plow, yet now, when the novel monster moves over the acreage, the birds, with indifference, just keep beyond the wheels—their attitude is absolute unconcern. I kept my eyes on the ground in front of the tractor where the birds were hunting grubs and bugs. The dark, rain-filled clouds overhead intensified the coloring of the feathered gleaners—it was as though a flock of tropic butterflies were balancing on the dun earth. Here four Scarlet Tanagers, gorgeous in their red and black, fairly burned the soil; there several dainty Canadian Warblers explored; beyond, tiny Redstarts, fan-tails spread, like shuttlecocks dyed flame and black, flew up and down, up and down, in ceaseless play. Satiny, soft-hued Kingbirds, audacious Bobolinks, Field Sparrows, and other birds garnered on the ground, while above, the Swallows skimmed and dipped past the steaming funnel. Then the clouds dropped rain and I left the river-rimmed meadows to hurry for the distant house. But I soon forgot the raindrops, for between the stables and the corn-barn I came upon a band of Warblers feeding on the ground. There were male Chestnut-sided Warblers picking up invisible bits; one bird let me stand beside him while he pecked in the road. Some very friendly Black-throated Blue Warblers and a Black-throated Green Warbler picked up their supper, chicken-like, at my feet. There were Redstarts everywhere, both male and female; they fluttered into the cow-stables, allowing the herdsman to catch them. One moved between the ponderous hind feet of the work horses, flying onto their driver's boot. These Redstarts were very confiding with me, and I watched in fascination the Japanesy little Warblers. One Redstart, feeding beside me, would dart into the air to the height of my head —once, plop! down he came on my hat-brim and hopped around it!

This bewildering springtime brought its tragedies; such confidence was sometimes betrayed—witness an exquisite dead Parula Warbler (a female), and a handsome male Magnolia Warbler, and one of the Redstarts—these last, with their heads snapped off and lying beside their bodies.

I have always known and observed the bird-life about me, but never do I recall such myriads of birds. To a patriotic farmer's wife it seems a hopeful sign that our feathered friends in strong battalions will help us feed the world and win the war. —KATHARINE UPHAM HUNTER, *West Claremont, N. H.*, May 24, June 3, 15, 1917.

Our Back-Yard Visitors

Perhaps many city people think bird-study is a too far distant subject to take up, that in order to study and know the birds one must be out-of-doors the whole time, or else take many trips to the woods or country. But such is not the case, for if one keeps his eyes open he can see many of these bird treasures in his own garden. In looking over our lists, it is surprising to find that until June 1, 1917, we have seen about fifty different kinds of birds in our yard, and probably then have not seen all that were there, as many of the observations were short ones.

Throughout the winter we were regularly visited by three Chickadees, three or four

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Nuthatches, two to four Downy Woodpeckers, occasionally a Crow and Pine Siskins, and one unwelcomed Sharp-shinned Hawk. February 27 brought the first Robin, which was again seen on the 28th, but a cold spell after that probably caused him to seek warmer quarters. This is the earliest date, for the Robin. March 18, Purple Grackles fed in the yard, and a flock of them has since nested in a small cemetery about two blocks away. A day later, Juncos and Bluebirds put in their appearance.

April brought us a visit from a single Meadowlark, a number of Brown Creepers and Chipping Sparrows, a pair of which have nested in our pear tree. Flickers occasionally find their way here, and a pair of them have a nest in a stump in the cemetery with the Grackles. Early one morning we saw two Hermit Thrushes. White-throated sparrows were quite numerous during migration, and both Kinglets were seen.

The May visitors were much more numerous about the middle of the month. One rainy morning, a flock of four Purple Finches created havoc by picking off many blossoms, particularly from the plum trees. Their work seemed to be in direct contrast to that of the Orioles which were among the blossoms at the same time. The next morning was fair, and the Finches were still around, not in the fruit trees, however, but eating the seeds of the elm. The change in the weather had caused them to change their diet, but why I do not know. Barn and Tree Swallows were seen flying overhead, as were also numerous Hawks. House Wrens are nesting with us, and Swifts can be seen at any time. Hummingbirds are occasionally seen, and we welcomed visits from the Oven-bird, Yellow-billed Cuckoo, Scarlet Tanager, Rose-breasted Grosbeak, and Hairy Woodpecker. A Least Flycatcher, Warbling Vireo, and Yellow-throated Vireo sing in the trees continually, and, we presume they are nesting in the vicinity.

The Warbler migration, May 17 to June 1, brought a number of interesting visitors in the order named: Black and White, Yellow, Redstart (numerous), Black-throated Green, Black-throated Blue, Magnolia, Wilson's, Canada, Tennessee, Bay-breasted, Blackburnian, Nashville, and Blackpoll.

Other visitors have been a Red-breasted Nuthatch, which took a few meals from our suet, Song Sparrows and Catbirds, a Black-billed Cuckoo, an Olive-backed Thrush, and numerous Goldfinches, of which we had the pleasure of seeing eight male birds at one time, in an elm.

This concludes the May migration seen in our yard. So far in June the Nighthawk is the only new arrival.

It is quite surprising when looking over the notes to find that so many birds have visited us this year. With the exception of the Meadowlark, which was seen in the lot back of our yard, all of the birds mentioned have been seen in the yard or flying overhead.

Probably many others of our city folks who think they cannot study the birds will see just as many, or perhaps more, if they keep their eyes open and give a few spare moments to the things that are going on in birdland in their own yards.—Mr. and Mrs. William S. Wood, *Kingston, N. Y.*

Robins Repeatedly Using the Same Nest

In the summer of 1916, at Jefferson Highland, N. H., a Robin, for her second nesting, built in the woodbine climbing on the front of our cottage, which faces northeast, placing her nest upon a substantial crossing of stout stems of the vine close to the shingles and under a projecting cornice about 12 feet from the ground. Its position secured to the occupant complete protection from falling rain and all drip from the roof. So well placed was the nest that a casual observer would have said of the location, "How discreetly chosen!" The Robins proceeded very quietly and confidently all through the nesting period, scarcely sounding any shrill cries of alarm over our movements day by day, and they brought up their brood successfully. This was a July nest-

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ing. It is likely that the pair had brought up a first brood somewhere near in June.

Very soon after the young were on the wing from their home in the woodbine, we perceived that the mother was again occupying her nest, and our continued observation showed that she laid a second set of eggs in it and brought up a second brood, which got on the wing in August. The impression conveyed at the time was that she had found such full satisfaction and contentment in her chosen site that she was drawn back to it for her next nesting.

When we returned to the cottage on June 1 of the following summer, 1917, we discovered that a Robin had built the nest for her first brood on a horizontal beam of the covered piazza on the south-east side of the house, placing it snugly up in the corner where the beam joins the house. So little did this mother Robin give heed to our movements, and so little did we hear any loud cries of alarm during the entire nesting, that we felt quite sure that our woodbine-nesting Robin of the previous summer was again with us, and that she had again made choice of a well-protected site, this time under the roof of the piazza, thereby showing the same discretion which had guided her the previous season. At this time the woodbine had not yet put forth its leaves. The last year's nest, however, was still resting securely in the vine, but was fully exposed to view. Two birdlings were raised, and these left the nest on June 16. Ten days later we perceived that the Robin was again occupying her nest on the piazza beam without having made any attempt to reconstruct it or build anew. Again it was apparent that she liked this chosen location so well that she at once returned to it for her second nesting, as soon as she had sufficiently cared for the first brood, thus showing an indisposition to choose some other location. This second nesting proceeded successfully. On July 7 there were three young which the parent birds were feeding, and on the 20th, towards evening, the birdlings left the nest, or, rather, one was seen taking short flights about the piazza and the other two seemed ready to use their wings. But we were apprehensive the next morning whether these two had gotten safely away, since we found the nest had been pulled from its place by some agency we could not with certainty determine, and lay empty and broken upon the floor. We kept no cat, and there was but one, to our knowledge, in the immediate neighborhood. This one may have been the culprit. With our hope that the birdlings had already safely flown before this catastrophe came was united a regret that the nest had been destroyed, for we felt it would have been very interesting to learn whether this Robin was of so constant a nature in her satisfaction with a well-chosen site that she would retain it for a third nesting. The opportunity for this test was lost.

But there came, perhaps, the better proof of her constancy when, six days later, we perceived that the old nest in the woodbine on the front of the house was again in use. There was no remaining question with us now. Our piazza-nesting Robin, which manifested her tenacity to a location there by twice using the same nest for two broods, was indeed the woodbine-nesting Robin of 1916 which had used the same nest for two successive nestings in the vine. She had now returned to her first well-chosen site, to her old nest, still in a full degree of preservation, and at this time well screened from view by the thick leafage of the vine, for her third nesting of the season. Three eggs were laid, and three birdlings were hatched and grew to maturity. They left the nest on August 27.

Thus we have the interesting fact of a Robin building but two nests for the rearing of five broods in two successive seasons, and during the second season, after rearing two broods in the same nest, returning to her old nest of the previous year, in which she had then reared two broods, for raising her third brood. Such an example of constancy and conservation is, perhaps, rare. In this instance it was doubtless due first to her good judg-

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ment in selecting locations, and then to her full contentment and sense of satisfaction arising from her daily experience of living undisturbed and not being interfered with in any way.

Her mate, as may be supposed, gave us much song early and late and betweenwhiles. His night perch was just across the road where is a wooded hillside. One evening in early July, when I was recording the order of the evensong of all the bird voices within reach of me, this mate sang his final song at 7.50, and a very pretty little response came from the mother on her nest in the woodbine, just a few softly given notes expressing 'good night,' and there was silence.—HORACE W. WRIGHT, *Boston, Mass.*

Notes on Robins' Nests

For three summers now we have been visited by Robins which are very poor nest-builders. I imagine it is the same pair each year which has not improved in their method, and realize, perhaps, that Fate, in the guise of my father, will take care of them. The first summer, a hard windstorm during the night loosened the badly constructed nest, built in an apple tree, and the four little birds fell to the ground. The distress of the parent birds attracted my father. The baby birds were apparently dead, but finding one showed signs of life, he carried them all into the house, wrapped them in flannel (only one had a few feathers appearing) and put them on the hearth of the kitchen stove. Then he went out and patched up their nest, finally tying it with a piece of black silk, the old birds all the time regarding the affair with great interest. The little birds, when thoroughly warm, revived and were returned to the nest, and three lived to grow up.

The next year the Robins built on a board which I had nailed under the eaves, and the nest, when the young were half-grown, being most inadequate and shaky-looking, another board was nailed under the first, making the shelf wider. This summer the Robins built over a little water-pipe, and, again, when the young birds looked in imminent danger of falling, an under board, with low rail-effect in front, was put up for protection. If the old birds noticed while it was being erected, no outcry was made, and while the little front board almost hid the nest, the male Robin, without an instant's hesitation, on perceiving the change, flew up and fed the young birds as before.—ELIZABETH LAWRENCE MARSHALL, *Jamestown, R. I.*

FLICKER AT NEST IN THE LION'S CAGE

A Sanctuary within a Sanctuary

Although the entire 169 acres of the National Zoölogical Park at Washington, D. C., constitutes a carefully preserved sanctuary for native wild birds, some summer visitants this past season, apparently not satisfied with the protection afforded by the Park authorities, found added

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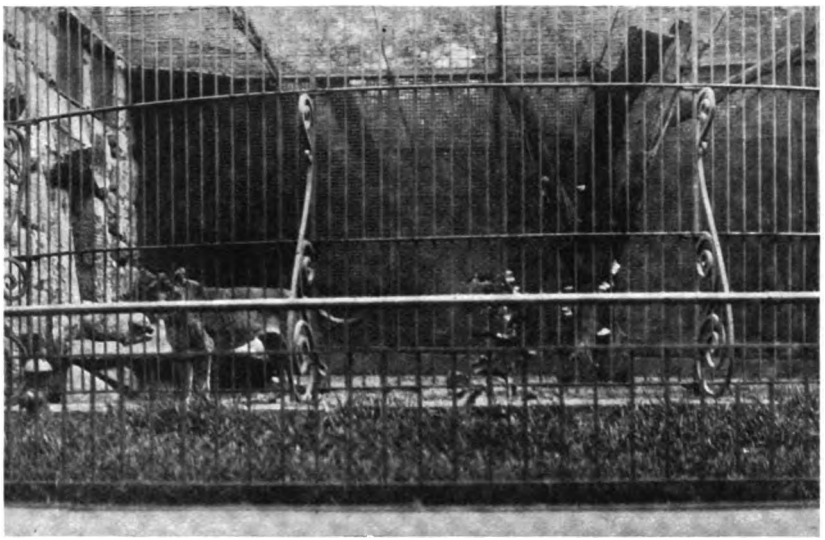

LION'S CAGE IN THE NATIONAL ZOOLOGICAL PARK AT WASHINGTON IN WHICH A PAIR OF FLICKERS AND A PAIR OF HOUSE WRENS NESTED

security by nesting within the outdoor enclosure of an African lioness. The lion's cage is 20 by 30 feet and 10 feet high, joins the building on one side, and is otherwise completely enclosed by steel bars 3¼ inches apart at the most open places. In holes in a stump of an old tree within this enclosure a pair of Flickers and a pair of House Wrens nested and reared their broods in safety. The Flicker hole is 6½ feet above the ground, and the Wren's nest about 6 inches higher, on another branch.

Visitors to the Park were quick to find interest in this novel sight, and crowds enjoyed watching the Flickers dart between the bars of the cage to feed their eager young, while the Wrens fussed, scolded, and sang from their own particular branch of the snag. The lioness, an unusually active animal, offered no objection to the intruders. Surely a place safer from nest-hunting boys or predatory animals could hardly be found than that selected by these two pairs of birds, and this lion's cage has every claim to the title of a model bird sanctuary.—N. HOLLISTER, *National Zoological Park, Washington, D. C.*

A Winter House Wren

Not far from my home in Evanston lives a florist who has a large greenhouse. One day last fall he left the front door open all day. Toward evening he closed it and soon heard a House Wren's song inside. The bird evidently flew in through the open door. It seemed very content, and so was allowed to remain. In the zero weather of January it was delightful to go in and hear the cheerful song of the Wren. It also helped the florist, in a large measure, to keep the insects in check.—CONROY EVANS, *Evanston, Ill.*

Three Winter Mockingbirds

A mockingbird was seen here the first week in January. It was feeding on honeysuckle and pokeberries and apples hanging on the tree, and was quite shy.—ELIZABETH P. STYER, *Concordville, Pa.*

It seems worthy of note that among our bird-guests there is a Mockingbird. For several years we have heard of a single male being at Sandy Hook, and now he seems to have chosen this side of the

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river for a winter abode. Perhaps the constant firing at the proving-ground got on his nerves! He is eating the berries on a spikenard shrub near the house, and also drinking at the bird-bath. Yesterday (November 28, 1917) we saw him chasing three Cardinals who are our constant visitors, much to our distress.—LOUISE DEF. HAYNES, *Highland, N. J.*

On November 30, a mild, still day, a Mockingbird was about our place all morning. For some little time he was resting on the bushes some 12 feet from the plate glass window

Four of us had a perfect view of him. I have seen him several times during the fall, but not close enough to be sure of his identity until the 30th.—MRS. ANNIE B. MCCONNELL, *Watch Hill, R. I.*

Cardinal in Wisconsin

On December 24 a Cardinal was seen here in the neighborhood of our smallest lake—Wingra. The day was mild until noon, but a raw, cold wind was blowing from the north when, somewhere between 3 and 4 o'clock in the afternoon, the Cardinal was observed.

While this is the first time I have seen this rare visitor, he has been seen by several different people since late November. On one of these days, in early December, the thermometer registered 20° below zero.—N. C. OTTO, *Madison, Wis.*

A Blackbird Chorus

On a perfect Sunday afternoon in spring, we went to the cottonwood trees at the edge of the meadow and sat down on some flat rocks in the sun. Almost immediately a flock of Red-winged Blackbirds flew into the trees close by and began an anthem. They did not seem to be in any more of a hurry than we were, and they gave us a concert wonderful to hear and free of charge. We all sat watching and listening, much as one would to a symphony orchestra. In fact, we discovered that it was a sort of orchestra.

The accompanists struck up a three-bar introduction in two-part time, and, after the third bar, others joined with soft whistles. Instantly, the music was punctuated with the liquid notes of the more polished singers, while the steady accompaniment consisted mostly of a soft *chip-chip-chip-chip-chee-chip-chip-chip chip-chee*, the *oka-ree—oka-lee* rising above the music of the orchestra exactly like the notes of an opera singer or the voices of the choir as they take up their parts in the proper places.

The finale was by the orchestra, in several 'selectious,' with a crescendo flourish, as of measures played after the singers are through, and having a distinct time rhythm. Often there was a pause by the entire company as if, having finished a 'number,' they were resting before beginning another.

We had noticed, when listening to them at a distance, that they did not all sing alike. There was a clearer and more definite note heard above the accompanying chorus of chirps and whistles.

It actually seemed as though the main body acted as an orchestra while a few birds did the real singing. They sang there for fully half an hour, with little pauses that strongly suggested the rests between performances of an orchestra of stringed instruments at any musical entertainment. —JESSIE I. CARPENTER, *Boulder, Colo.*

An Industry Awaits a Captain

Birds benefit agriculture by destroying caterpillars and other pests. The bird population can be increased greatly by simple means, one of which is the setting out of nesting-homes, not so much to facilitate nesting as to give protection from cats, snakes, and other enemies, and a refuge from extreme cold. The good done thus has been made so clear that the farmers in some parts of Europe have set out nesting-homes of their own initiative. Much information on this subject is given in a little book 'How to Attract and Protect Wild Birds' (National Association of Audubon Societies).

In order to have any appreciable eco-

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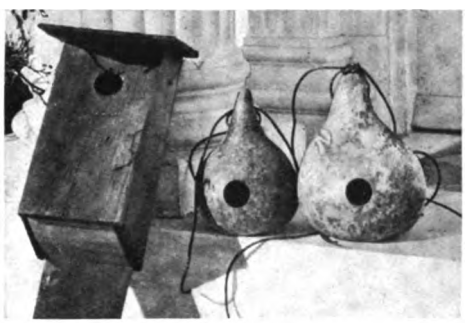
nomic effect, nesting-homes must be set out, not in tens but in hundreds of thousands, if not in millions, and hence they must be made cheaply enough to permit this. The experiments of the Bedford Audubon Society, of Bedford Hills, N. Y., show that gourds fulfil the needs of the case, in being both very attractive to the birds and extremely cheap, so cheap that over 2,000 of them have been sold within the last two years to people living in and about Bedford Township. They were first brought here for this purpose by Wm. G. Borland.

These gourds, when tried in competition with more than 600 shingle boxes, of a form approved by several of the most competent American authorities, proved much the more attractive, 50 per cent of those examined having been nested in during the first year against only 19 per cent of the boxes.



NESTING-BOX AND GOURDS

These gourds, strung with marlin and ready for hanging, with the proper holes for entrance and draining, cost us only 10 cents apiece. But a properly organized industry ought to turn them out much more cheaply, probably at a cost of not over 6 cents each, because our cost was based on unfavorable conditions, working in an amateur way, with no special appliances, wholly by adult hand-labor, on a small scale, and at a great distance from North Carolina, where our gourds were raised, so that our freight charges were excessive.

A gourd lasts four years, and perhaps longer. Papier-mâché gourds would last much longer, and might, perhaps, be made at an even lower cost, to judge from the cost of papier-mâché pails, but here actual experiments are needed to show whether a finish could be given them which would attract the birds.

The cost of raising and curing the gourds themselves is very small, and the only additional expense is that of cleaning them out and cutting and stringing a few holes, so that the total cost is small enough to permit distributing them on a scale of real importance to agriculture. The preparation would naturally be done in winter, and therefore under favorable labor conditions.

Here, then, seems to be an industry awaiting a captain. The work to be done is, first, to diffuse among the farmers the knowledge of the benefit from setting up nesting-homes and winter feeding, so as to create an active demand; and, second, to organize in the South an industry for preparing and delivering these gourds.—H. M. Howe, *Bedford Hills, N. Y.*

Some Ruffed Grouse Notes

The Ruffed Grouse, in spite of three centuries of persecution, is still fairly common in some parts of Massachusetts. Even within 10 miles of Boston it is met occasionally by the haunters of the isolated woodlands which persist almost in sight of the gilded dome. The wise policy of the Metropolitan Park Commission in setting aside hundreds of acres of undeveloped land has done much to preserve our wild life, while the town of Brookline has been a pioneer in prohibiting shooting *at all times* anywhere within the town boundaries.

The accompanying photograph, was taken at Waban, Mass, May 13, 1916, in a small plot of second-growth woodland, adjoining on one side a large cornfield and on another side the Metropolitan Park Road along the Charles River. Quail are sometimes seen in the cornfield, and Pheasants are becoming very common

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through the entire neighborhood, but the Grouse was a surprise.

From my house in Waban I heard the harsh cackling of the cock Pheasants daily in these woods, and their dusting-places were frequently seen. On the afternoon of May 12 I started out to look for a Pheasant's nest, near where the cackling seemed most frequent.

I had hardly gone 200 feet from the edge of the cornfield clearing when, to my surprise, I saw a hen Pheasant sitting among

RUFFED GROUSE SITTING
Waban, Mass., May 13, 1916

the dead oak leaves at the base of a small chestnut tree. She sat very close, not leaving her thirteen greenish tinted eggs until I had crept up to within 6 feet of her. I regret to state that she never came back to the nest. The only other Pheasant's nest I have found was also immediately deserted, though in this case there was only one egg, and we almost stepped on the mother without seeing her. The nest was not touched or disturbed in any way, as the eggs were plainly visible as soon as the hen flushed.

I considered myself in great luck to have found the nest before the bird flushed from it, as her protective coloration makes discovery difficult, but even better luck was in store. A few minutes later, at the base of a small second-growth oak, within 150 feet of the Pheasant's nest, I found a second nest, and, to my surprise and delight, Mother Grouse was at home. She flushed when I was about 10 feet away, but was back on the eggs in about an hour. There were eleven eggs in this nest, quite different in appearance from the Pheasant's eggs, being smaller and buffy in color.

The next morning I returned to the woods with camera, tripod, and a 15-foot extension cord for releasing the shutter. The Pheasant's nest was unoccupied, and I snapped the eggs, then approached the Grouse's nest. The mother was less timid today, but I could not quite snap her before she flushed. I therefore set up the camera, took a couple of pictures of the eggs, and left for an hour's walk by the river. Returning I found Mother Partridge as you see her in the picture.

She was still sitting on May 20, when I last saw her, but upon my return from a brief visit to my camp in New Hampshire, some broken shells showed that the young had been successfully hatched. Later, a friend told me that he saw a brood of Ruffed Grouse, tiny downy chickens, about May 30 in these same woodlands, and I trust the family is still intact and will increase in the neighborhood.

The previous fall we had posted the district pretty thoroughly with 'No Shooting' signs, and many birds had crossed the river to seek sanctuary from the gunners. The river being in the Metropolitan Park, is a bird reservation, and is resorted to yearly by American Mergansers, Golden-eyes, and, occasionally, Wood Duck, Black Duck, and Teal.—JOHN B. MAY, M.D., *'Winnetaska,' Ashland, N. H.*

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THE SEASON

VI. December 15 to February 15

BOSTON REGION.—The present winter has proved the most severe season recorded from this region by the weather bureau. Low temperatures have been phenomenal, both on account of protracted periods of cold, during which the thermometer has remained at zero or below, and on account of the extremely low temperature (15° and 20° below zero) which has accompanied the cold waves. The ground was covered with snow and ice from November 28 (the first snowfall) until the thaw of February 12–15 removed a large part of the snow.

Fortunately, there were very few birds here to suffer from these unfavorable weather conditions. Although flocks of Cedar Waxwings continued to appear through the winter and Black-capped Chickadees were present in normal numbers, wintering Juncos and Tree Sparrows were rare. From the observations of several members of The Nuttall Ornithological Club it appears that most of the Tree Sparrows of this region are collected south of Boston, and although many, of course, are wintering along the seacoast, the inland country to the west and northwest of Boston is nearly deserted.

The harshness of the winter brought one novelty—during the arctic weather, Snow Buntings, of late years a rarity except on the seacoast, came familiarly in flocks of dozens into the country roadways and even into the streets of Lexington, where they fed on horse-droppings.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK CITY REGION.—Till this winter, the local weather bureau's lowest recorded temperature was −6°, touched several times, but that record has been broken on two occasions, −13° being reached on December 30, and −7° in January. Furthermore, remarkably cold weather has been almost continuous. However, it has not been an unduly stormy winter, but, in the lack of warm spells, the snow that has fallen has stayed, so that the ground was not bared from the time of the first snowfall, late in November, till a general thaw which began in the second week of February. Naturally, ice-thickness broke all records; people walked across the Hudson from upper New York City.

On the whole, birds have been scarce these last six weeks, both in species and individuals, so that it has been customary to list about sixteen species in a day's tramp instead of the ordinary twenty-odd. There has been a particular scarcity, at least in northern New Jersey, but less so in the city and eastward, of White-throated and Tree Sparrows and Juncos, and I know of no record since December for Field Sparrow (except one on Long Island by E. P. Bicknell,) Golden-crowned Kinglet, Hermit Thrush (except on Sandy Hook), or Bluebird. On the other hand, Downy Woodpeckers, Goldfinches, White-breasted Nuthatches, Black-capped Chickadees, and others have been in wonted abundance, and it is remarkable that on Long Island, with so much ice, Canada Geese have been much less scarce than usual in winter. The presence of the Northern Shrike in exceptional numbers has been a feature of the season; in a dozen trips, since December 20, the writer has seen six, whereas he had previously not averaged one a winter. Many Goshawks have been taken around the outskirts of our Region (in Connecticut and northwestern New Jersey), but I have heard of none nearer by. There has also been an unusual southward movement of Owls, indicated hereabouts by several Great Horned (apparently of one or more northern races), a Snowy trapped at Wilton, Conn., and one claimed to have been seen by a Coast Guard on Long Beach, Nassau County, L. I., and rather more Saw-whets than usual. I know of no record, anywhere near this Region, of Evening Grosbeak,

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Pine Grosbeak, Red Crossbill, White-winged Crossbill, Redpoll, or Brown-capped Chickadee.—CHARLES H. ROGERS, *American Museum of Natural History, New York City.*

PHILADELPHIA REGION.—This vicinity came in for its full share of the abnormal cold of December and January. All records of the local weather bureau for long-continued cold were broken. The departure from normal averaged, for the two months, almost −8°. The Delaware River, above Philadelphia, was frozen from shore to shore, and ice was said to be 18 inches thick a short distance up the river (Torresdale, Pa.), the thickest in the memory of the local rivermen.

As for the birds, there appeared to be about the same number of species present as in late November, but a decided falling-off in the number of individuals was apparent. This was no doubt due to some extent to the deep snows, which forced the birds into restricted areas where food was obtainable. For instance, a small flock of Meadowlarks which had taken winter quarters on a nearby river-meadow could not be found. After repeated attempts to locate them had failed, they were finally discovered some distance away feeding on the top of a heap of compost. They were very loath to leave and came back as soon as the opportunity offered. With them were numbers of Horned Larks and Song Sparrows.

The Northern Shrike was the only species from the North that appeared in sufficient numbers to break the monotony of the ordinary list of the common winter birds.

A brief but characteristic report for the two months might be summed up in the words: bitter cold, birds scarce.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—Notwithstanding one of the severest winters in local annals, there were few of the more northern winter residents about Washington during December and January. The common and regular winter birds have been about as numerous as usual, although more unequally distributed, owing perhaps to the cold weather and almost continuous covering of snow in the country districts. Very noticeable, however, has been the almost entire absence of the Red-breasted Nuthatch, which is normally a more or less common winter resident.

Hawks have been present in more than ordinary numbers, many of them resorting to places in the immediate suburbs of the city, particularly the lower part of the Potomac Park. Here the Red-tailed Hawk, which is considered a rather rare bird about Washington, has been seen regularly. Other species observed during December and January were the Red-shouldered Hawk, Broad-winged Hawk, Bald Eagle, Marsh Hawk, Cooper Hawk, Sharp-shinned Hawk, and Sparrow Hawk, and most of these have been reported as more or less common.

In the District of Columbia, that is, the environs of the city of Washington, the Bob-white has been, it is a pleasure to say, unusually numerous. In view of the severe weather, interested persons took measures to save the birds from starvation by systematically feeding them, and with gratifying results.

A flock of Prairie Horned Larks, rather large for this vicinity, consisting of several hundred individuals, with a slight sprinkling of Horned Larks, were by several observers noted in the vicinity of Arlington, Va., on January 24 and on several subsequent dates. The Prairie Horned Lark has also been reported from other places in the Washington region.

The European Starling has been much in evidence, moving in flocks all winter, and has appeared in a number of places in various directions from Washington. It is perhaps also worthy of note that the Horned Grebe was observed by Mr. B. H. Swales, on December 6, 12, 13, and 14, 1917, in the Potomac River, opposite the lower end of Potomac Park, and a Catbird in the same place on December 6, 1917.

Of the more uncommon winter visitors there are few to record. A single Snow-

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bunting, noted by C. H. M. Barrett, along the Anacostia River, on December 19, 1917; one American Crossbill, seen by E. A. Preble, near Cleveland Park, on December 15, 1917; and a single Northern Shrike, observed in Potomac Park, on December 28, 1917, about comprise the list.

Perhaps the most interesting ornithological feature of this winter has been the large number of various kinds of Ducks. These have remained in the Potomac River, from the Potomac Park down to Dyke and beyond, so long as the river or a portion of it was free from ice. In fact, the Ducks have been much more numerous this season than for many years; and, off Dyke alone, observers have frequently seen flocks aggregating several thousand. When undisturbed they often approach near the shore, but habitually keep to the middle portion of the river. The species thus far reported this winter are twelve, as follows: American Merganser, Red-breasted Merganser, Hooded Merganser, American Golden-eye, Buffle-head, Greater Scaup, Lesser Scaup, Canvasback, Redhead, Ruddy Duck, Black Duck, and Mallard.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

MINNESOTA.—Until the beginning of the second week in February, uninterrupted low temperatures prevailed all over Minnesota. The cold has been unusually severe, and there have been no intermissions, not even for a day, as is usual in January. No snow of any account has fallen, and as a result the ground is deeply frozen and the ice on lakes and sluggish streams is between 2 and 3 feet thick. The gorge of the Mississippi River below St. Anthony Falls has been daily filled with a dense mist which rose from the water's surface in great swaying wisps and floated away over the top, making the chasm seem like some great, dim, and mysterious steam-vent from regions unseen. Between February 8 and 13 came a break in these arctic conditions, and for the first time since last November, melting temperatures at noontime appeared. The scanty snow disappeared in exposed places, and on February 12 a venturesome Horned Lark was reported near Minneapolis. A considerable flock of Cedar Waxwings appeared in the outskirts of St. Paul, feeding on mountain-ash berries (Miss C. K. Carney). But on the 14th came the severest blizzard of the season, with wind 45 miles an hour, blinding snow, and, the following morning, a temperature of 10° below.

In spite of all this severe weather, there have been occasional reports of Robins seen in the vicinity of the Twin Cities—stray birds that for lack of migrating instinct, or other reasons, failed to depart with their more normal fellows.

Frank A. Bovey reported seeing a Cardinal several times during January on his grounds at Lake Minnetonka, some 15 miles west of Minneapolis. This is a rare event. From Lanesboro has come the report that the Brown Creeper and the Golden-crested Kinglet have survived the winter (Hvoslef).

A single flock of Bohemian Waxwings at Christmastime, a Shrike January 22, and a flock of 50 Redpolls February 10, all at Duluth, with Pine Grosbeaks in Carlton County about December 25 (Van Cleef), comprise all the winter visitants thus far reported.

An occasional Red-breasted Nuthatch, Junco, and Tree Sparrow has been seen in the southern part of the state.

Chickadees and all our regular winter birds are still scarce.—THOS. S. ROBERTS, *University of Minnesota, Minneapolis.*

KANSAS CITY REGION.—The outstanding feature of the season's work was the finding of three forms of the Red-winged Blackbird wintering here. The aggregate number of individuals was below normal, but the presence of *Agelaius phœniceus fortis*, *A. p. arctolegus*, and *A. p. predatorius* (formerly *A. p. phœniceus*) is, as far as the writer knows, unusual. The three forms were present in about equal abundance, as indicated by specimens taken.

The wintering Ducks and Geese were

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driven further on by the severe weather conditions of late December and early January, the last seen being Canada Geese, Mallards and Canvasbacks on the Missouri River on Christmas Day. A hybrid, apparently the common one of Mallard × Black Duck, was taken on December 8. It may be worthy of note that the waterfowl flights at this point have shown a decided increase since the passage of the Migratory Bird Law. It may not be generally known that the sportsmen of this section have opposed the spirit of this law with more effect than those of any other part of the country.

A troop of perhaps fifty Short-eared Owls spent several weeks prior to early December on an extensive tract of land recently formed by the meandering of the great river. This tract, embracing a thousand acres or more, is overgrown with typical bottom-land vegetation, bordered by thickets of young willows, and affords ideal roosting-places for these Owls. An unusual feature of their stay at this time was their feeding on the Tree Sparrows that frequented the willows in droves. Every pellet examined contained some token of the Sparrows. The fact of this unusual diet being resorted to, as well as the favorable locality being refused as a winter roost, may be accounted for by the absence of favorite rodent-prey on this new ground.

Blue Jays and Red-headed Woodpeckers have been here in greater numbers than usual, perhaps because of an abnormal crop of acorns, notably of the shingle oak.

A lone Kingfisher was noted on February 17, rattling disconsolately along the course of a frozen stream. On this date were seen the only Crossbills of the winter —a flock of five.

The usual crowd of Sparrows braved the rigors of the severe winter in the deep shelter of the Missouri River bottoms. Not so many Harris's Sparrows, however, were seen as during previous winters.

Myrtle Warblers, which have been met with nearly every winter in the timbered bluff regions feeding on poison ivy drupes, were not present this winter.—Harry Harris, *Kansas City, Mo.*

Denver Region.—The weather conditions in this region during these two months have been most enjoyable and pleasant; there has fallen a goodly amount of snow in our neighboring mountains and foothills, but not an excessive depth in the immediate vicinity of Denver. There have been several spells of low temperatures during this time, the minimum in Denver having been 15° below zero. Notwithstanding the proximity of the cold mountains, and the spells of low temperatures, there has been a good deal of 'open water' about the Denver Region, a condition probably permitting a Great Blue Heron and a Kingfisher to stay here all winter, the first having been seen near Denver on December 25, and the latter on January 1. The 'open water,' as is well known, also encourages Wilson's Snipe to remain during what would appear, otherwise, to be an unfavorable season; one was seen here on January 1, and another by Dr. A. K. Fisher on January 23. This latter day was a very mild one, and it seems strange to be able to record the occurrence, during its afternoon, of a Snowy Owl at the edge of the mountains about 16 miles west of Denver, one having been seen there by one of the writer's friends.

Dr. Fisher and the writer also saw a Mourning Dove near the city on January 23, which in this locality is an unusual record for January. Robins have been more common in the city during the period now under consideration than in any other similar period during the writer's twenty-four years of observation here; individuals of this species were seen in December and in every week since January first. Individuals of our ordinary winter bird-population have been common, and this population is well reflected in the Christmas Census for Denver, as given in the January-February (1918) number of Bird-Lore.—W. H. Bergtold, M.D., *Denver, Colo.*

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Book News and Reviews

TROPICAL WILD LIFE IN BRITISH GUIANA. Zoölogical Contributions from the Tropical Research Station of the New York Zoölogical Society. By WILLIAM BEEBE, Directing Curator, and G. INNESS HARTLEY, Research Associate, and PAUL G. HOWES, Research Assistant. With an Introduction by COL. THEODORE ROOSEVELT. Vol. I. New York Zoölogical Society, 111 Broadway, New York City. 1917. 8 vo. xx + 504 pages, numerous illustrations.

Mr. Beebe is to be congratulated on the privilege of heading what, so far as the reviewer knows, is the first expedition to leave this country in search, chiefly, of facts concerning birds rather than their skins. The museum man and the professional collector are obliged to bring back specimens. The former, for the exhibition halls and laboratories of the institution he represents, and which requires, furthermore, some tangible, appraisable results for the money expended; the latter, to ensure the success of his enterprise or, at least, to assist in defraying his expenses. To Mr. Beebe, therefore, belongs the credit of impressing those in authority in the organization which already owes so much to his labors, with the value of researches, to the outcome of which no pecuniary valuation could be attached, but which might result in securing information of high scientific importance.

We hope that the showing he and his associates make in this report (which should be considered a report of progress) will lead to the sending of many similar expeditions.

Taking a region (about Bartica, British Guiana) whose bird-life is fairly well known, where faunal problems are not complicated by altitude, and hence where intensive collecting is not essential, Mr. Beebe and his associates devoted six months (March to August, 1916), to a study of various problems, chiefly ornithological, which presented themselves.

Specimens were collected when they were needed for identification or study, but no attempt was made to amass a collection, each man feeling wholly free to devote his entire time to observation without the necessity (ever present in the collector's mind) of securing at least so many specimens a day.

As a result of this method, we have in this preliminary report so many additions to our knowledge of the habits of South American birds and so many suggestions in regard to further subjects for investigation, that we cannot begin to enumerate them in this review, which indeed is designed to comment on Mr. Beebe's unique undertaking rather than to detail its outcome.

We can only hope that he will return in safety from his service as an aviator in France and, with additions to his staff, be spared to continue his studies in the jungles of British Guiana.

Meanwhile we advise every student of tropical life to secure this volume.—F.M.C.

TWELVE MONTHS WITH THE BIRDS AND POETS. By SAMUEL A. HARPER. Ralph Fletcher Seymour [Chicago?]. 12 mo. 295 pages.

Devoting a chapter to each month in the year, the author pleasantly interweaves his own observations and appreciation of birds with those of the ornithologist and poet. His reading has evidently carried him far afield in both the science and sentiment of ornithology, and, combining the results of these excursions with his own, he has written a volume which contains much of interest for both bird students and general readers.

It is a little difficult to reconcile his fondness for the English Sparrow with a genuine love of the birds in whose ways we find some expression of those traits which we commend in mankind, but at best we may credit him with the courage to champion a member of the feathered race whose friends are found chiefly among those unfamiliar with other forms of bird-life.

Excellent taste has been shown in the makeup of this book, which may well

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find its way to the library of the nature-lover.—F.M.C.

THE BOOK OF BIRDS, COMMON BIRDS OF TOWN AND COUNTRY AND AMERICAN GAME BIRDS. By HENRY W. HENSHAW. With Chapters on 'Encouraging Birds around the Home' by F. H. KENNARD; 'The Mysteries of Bird Migration,' by WELLS W. COOKE; and 'How Birds Can Take Their Own Portraits,' by GEORGE SHIRAS, 3d. Illustrated in natural colors, with 250 paintings by LOUIS AGASSIZ FUERTES. National Geographic Society, Washington, D. C. Royal 8 vo. viii + 195 pages; many illustrations in color and black and white.

The Editor of the *National Geographic Magazine* has here brought together the various articles on birds which have appeared in that publication and with which the readers of BIRD-LORE are doubtless familiar.

It is difficult to overestimate the educational value which these admirable articles have already exerted, and we cannot therefore be too thankful that they should now be presented in a form which makes them readily accessible.—F.M.C.

HOW TO HAVE BIRD NEIGHBORS. By S. LOUISE PATTESON. Photographs by the Author. D. C. Heath & Co., Boston, New York, Chicago. 12mo. viii + 128 pages; numerous illustrations.

In this book the author recounts her experiences with bird neighbors in a manner well designed to hold the attention of the boys and girls to whom it is dedicated and for whom it is written, as well as those children of maturer years who find perpetural youth in association with birds. Numerous photographs from nature add greatly to the value and realism of the text.—F.M.C.

Ornithological Magazines

THE CONDOR.—The January number of 'The Condor' contains seven general articles, two of which relate to the nesting habits of waterfowl. Munro describes the habits of 'The Barrow Golden-eye in the Okanagan Valley, B. C.,' with notes on their nests. He attributes the birds' preference for strongly alkaline lakes to the presence of certain small crustaceans which form the principal food of this Duck. In a charming account of 'A Return to the Dakota Lake Region,' Mrs. Bailey touches on the various species of waterfowl met with, including the White-winged Scoter, which was found on the Sweetwater chain of lakes.

Squires and Hanson contribute a comprehensive review of 'The Destructon of Birds at the Lighthouses on the Coast of California,' based on reports from thirty-seven stations, only ten of which report any destruction at all, and even here the destruction is slight and is confined mainly to waterfowl and shore-birds. Wetmore, in 'A Note on the Tracheal Air-sac in the Ruddy Duck,' states that further examination of birds in the field shows that this air-sac is a secondary sexual character found only in males, and that the birds habitually keep the sac inflated, even while diving.

The remaining articles comprise three local lists of rather unusual interest. Mailliard gives an account of 'Early Autumn Birds in Yosemite Valley' with a list of twenty-three species that have apparently not heretofore been recorded from the floor of the valley. He overlooks the fact that Ray collected eggs of Anna's Hummingbird in 1898, and that Muir reported Lewis' Woodpecker from the valley a number of years ago. In 'Notes on Some Birds from Central Arizona,' Swarth summarizes the results of his observations during a trip along 'The Apache Trail' between Phoenix and Globe in the summer of 1917. Among other interesting records he was able to add two species, Bendire's Crossbill and the Indigo Bunting, to the state list, making the number of species now known from Arizona 375. The concluding article, by Quillin and Holleman, contains a list of eighty-two species of 'Breeding Birds of Bexar County, Texas.' In one of the brief notes Grinnell calls attention to the fact that so far as now known the White-rumped Petrel on the California coast is Beal's Petrel (*Oceanodroma leucorhoa beali*), and that there is no record of Kaeding's Petrel (*O. l. kaedingi*) having been taken in the state.—T.S.P.

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

THE cause of nature-study has lost one of its earliest and most effective advocates in the death of Mrs. Frank N. Doubleday, which occurred in Canton, China, February 22, 1918. Under the name of "Neltje Blanchan" Mrs. Doubleday made numerous contributions to the literature of popular ornithology, botany, and horticulture. Her first and most important book, 'Bird Neighbors,' was published in 1898, and at once met with a wider sale than any other bird-book which had then appeared.

Mrs. Doubleday's book on 'How to Attract Birds' was among the first formal treatises on this subject in which she was deeply interested. 'Birds Every Child Should Know' further expressed her desire to popularize bird-study, and she was doubtless largely responsible for the attention paid birds by 'Country Life in America,' of which the firm founded by Mr. Doubleday is the publisher. It was natural that a person with Mrs. Doubleday's broad sympathies and active, constructive mind should offer her services to her country. Since the outbreak of the war she had been continuously engaged in relief work, and at the time of her death she was traveling with her husband in behalf of the Red Cross.

IN April, 1867, Robert Ridgway became connected with the Smithsonian Institution at Washington, and the present month, therefore, marks the conclusion of his fiftieth year in the service of the Government. A half a century takes us back almost to the date of publication (1858) of the Pacific Railroad report on the birds of North America by Baird, Cassin and Lawrence, or, in other words, to the birth of systematic ornithology in America.

It was to Ridgway that Baird, claimed by growing executive cares, handed the torch which he had lighted, and during the five decades which Ridgway has borne it, it has steadily increased in power, until today it shines without a rival in the world of ornithology.

Ridgway, in a memorial to Baird presented before the Annual Congress of the American Ornithologists' Union in 1887, and published in 'The Auk' the following January, states that until the middle of 1864, when he was in his fourteenth year, he was unacquainted with the name of a single living naturalist and with only general or superficial works on natural history. At the suggestion of a lady living in his native town of Mt. Carmel, Ill., he wrote to the Commissioner of Patents at Washington enclosing a life-size, colored drawing of a pair of Purple Finches with the name "Roseate Grosbeak, *Soxia rosea*."

In due time he received a reply from Professor Baird, then Assistant Secretary of the Smithonian Institution, commending "the unusual degree of ability as an artist" shown in his drawing, which was identified as that of a Purple Finch, and offering to aid the young ornithologist by "naming your drawings, or in any other way."

It is interesting to remember that, just about twenty-five years before, Baird had appealed to Audubon for aid in identifying a bird and had received a reply essentially similar to the one just quoted. Actually, as well as scientifically, Baird, therefore, formed the connecting link between Audubon and Ridgway.

Three years later Baird called Ridgway to Washington to start the career which has made him foremost among systematic ornithologists.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

ARE YOU DOING YOUR PART?

A year goes quickly in these momentous times, and before these words are in type, Spring will once more be with us, and Bird and Arbor Day in its train. We have had many pleasant programs in times past for this occasion, many happy gatherings of teachers, pupils, and parents, and, it is to be hoped, really fruitful results from the observance of this annual nature-festival.

This season our eyes are strained toward one goal, namely, winning the war, and it is both right and imperative that we turn every effort in that direction. Of all the yearly holidays and anniversary days which we are accustomed to celebrate, no day lends itself so well to the great conservation movement of the present as Bird and Arbor Day. Without vegetation, trees, shrubs, plants, grains, and grasses of all kinds on land, and marine vegetation in water, there could be no life and no means of sustaining life on this earth, for without vegetation animals must perish, a truth which is emphasized by Arbor Day instructions. Now you and I may at present seem to be very far removed, on the one hand, from any natural disaster which would cut off all life-supplies for man and beast, and, on the other hand, from real extremity in the matter of food, by reason of impending crises in national and international affairs. If we are in this complacent attitude of mind, it shows how small our comprehension is of the true situation. *We must realize two facts clearly, and we must realize them now:* first, that there are just as many, and probably more, destructive agencies at work in forest and field now than before the war, since millions of human workers have left their accustomed duties to go to the front, and, second, that *the last surplus bushel of wheat* in this country has already been shipped abroad, so that we must redouble our efforts to conserve and use substitutes for what we have until another harvest.

Here is the plain statement of the case. With fewer and fewer men left to keep up agriculture and forestry, insects, field-mice, gophers and other pests are likely to increase more rapidly, while, at the same time, the actual food-supplies of the world, which must feed every living creature until more can be grown, are smaller and more unevenly distributed.

This coming Bird and Arbor Day, let us say less and *do more*. Let us put greater effort into plans for safeguarding crops and timber and make that effort count for something beyond patriotic programs. Instead of planting a tree or so about our schools, let us turn our energies to studying how to increase and conserve the food and fuel supplies in our own neighborhoods. This

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is a subject for State Audubon Societies, as well as for teachers and scholars, to take up actively. Let our Audubon Societies reach out, on the one hand, to the schools and, on the other, to the homes for support in this matter. Take as a slogan: *Food* and *Fuel—Friends* and *Foes*, and, with this as a text, spread accurate information about local food and fuel supplies, and their feathered guardians and insect enemies.

The New Jersey Audubon Society, among others, publishes excellent bird-study leaflets, in which the value of birds and their status under the game-laws of that state are presented. The United States Department of Agriculture prints reams of authentic information, not only about birds, but also about insects, forests, crops, and many kindred subjects.

Not illustrated bulletins from Departments of Agriculture alone will do what is needed. Practical demonstrations and experimental observation-plots, as well as careful cultivation and inspection of areas ordinarily tilled or held in reserve must form the backbone of this movement.

Junior Audubon Societies represent a respectable army in point of numbers, and, under the leadership of their various state organizations, a mighty movement could well be organized along the following lines of endeavor:

1. Canvass a definite locality, preferably a home or town area, and learn the present condition of food and fuel supplies.
2. Study these supplies with four ends in view, viz.,
   a. Comparison with former abundance.
   b. Actual present location and condition.
   c. Methods of increase and conservation.
   d. Special agents affecting these supplies, such as birds, insects, animals, fire, frost, average rainfall, temperature, storms, human depredations.
3. Bring reports to school of home-conditions, whether farming areas in rural districts or lawns and back yards in towns and cities.
4. Make charts, colored to show the location of food and fuel areas. Uncultivated or neglected areas should be shown in a special color.
5. For your Bird and Arbor Day program, present a graphic, practical report of the conditions in your neighborhood, with suggestions for improvement, illustrative material showing the benefits of conservation, and a series of comparative pictures taken from magazines or other sources, which shall point the moral of *intensive cultivation* and *protection* of small areas.
6. Present a set of simple instructions in forestry, arboriculture, and horticulture, suitable for boys and girls.
7. *Do your part* by engaging in active service. Children can learn the value as well as the fun of discovering waste wood about farm and dwelling, and picking it up for kindling next winter's fires. They can also help in the garden, by working a little here and a little there, for it is a happy, joyous kind of play, really, to be in a garden with the vegetables, weeds, fruit-bushes and trees and all the strange feathered, winged, running, crawling, buzzing folk which frequent it. Make work a play whether indoors or out, and make duty a joy. *Do your part*, whether young or old, by discovering the opportunities to learn new methods of doing things, new combinations of food, new ways of saving, new ideas about your share and my share in this world now so rapidly changing. Move on ahead or you will be left behind.—A. H. W.

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JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXVIII: Correlated with English, Reading, and Agriculture

"The world is all before me; but I ask
Of Nature that with which she will comply—
It is but in her summer's sun to bask,
To mingle with the quiet of her sky,
To see her gentle face without a mask,
And never gaze on it with apathy."

". . . . The green hills
Are clothed with early blossoms, through the grass
The quick-eyed lizard rustles, and the bills
Of summer-birds sing welcome as ye pass;
Flowers fresh in hue, and many in their class,
Implore the pausing step, and with their dyes
Dance in the soft breeze in a fairy mass;
The sweetness of the violet's deep-blue eyes,
Kiss'd by the breath of heaven, seems colour'd by its skies."

—BYRON.

Although Byron is not generally thought of as a poet of nature, in these few lines he expresses much of the true nature-lover's delicate attunement to the pure and quiet joy of "the green hills," the "early blossoms," "soft breeze," and "summer birds" which "sing welcome" to the passer-by. Only a poet could express so beautifully the appeal of the fresh spring flowers, which "*implore* the *pausing step*," perhaps only a poet could have phrased the wish to see the gentle face of nature "without a mask and *never gaze on it with apathy*."

A SPRINGTIME HERMIT

By LIZZIE THOMAS BALDWIN, Jamestown, N. Y.

One April morn, when skies were gray,
And I had wished a sunny day,
I wandered where God's acre fair
Calls birds to matins, men to prayer.

Within a darkling evergreen
A bird did sit, and there did preen
His wings. 'Twas he who soon goes north
And there his matchless hymn pours forth
In forests dim, on mountains high,
As Love's full song mounts toward the sky.

I watched. A little king dropped down;
Upon his head a ruby crown,
His royal song rose, glad and clear.
My preening bird awoke to hear.
He answered low; then swelled to theme—
An overture to Love's sweet dream.

Dear hermit thrush! My cup runs o'er
With rapt'rous song ne'er heard before.
Thou'st sung! And shall I ever say,
Ah, me! What's in a rainy day?

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Suggestions for Bird and Arbor Day

By INDIANOLA WILLCUTS

[NOTE.—A resourceful teacher from Holyoke, Minn., has contributed the following successful method of arranging Bird and Arbor Day exercises.—A. H. W.]

PROGRAM

I. Songs—"The Woodpecker" } Modern
"The Owl" } Music Series (Primer)
II. Game—"If I were."
III. Poem—"I Used to Kill Birds," H. W. Longfellow.
IV. Readings—(from six bird charts).
V. Game—"The Farmer's Friends."
VI. Comparison of adjectives.
VII. Name fifty birds.
VIII. Game—"I saw a," "I saw an."
IX. Best story (read).
X. Game—"Bird Calls, Songs and Whistles."
XI. Rhymes.
XII. Reading—"The Magpie's Nest."
XIII. Dramatization—"Cock Robin's Wedding."

GET READY FOR BIRD DAY

Arrange your daily work in school for the month before Bird Day, in such a way that when the day comes your program is ready without having had any rush or much extra work.

Send out invitations. Hektograph a good number of Red-headed Woodpeckers

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(Reed's 'Bird Guide,' or Audubon Educational Leaflets). Color these carefully and cut out. Paste a cut-out on the lower left corner of a piece of white drawing-paper or good cardboard, 5¾ by 4½ inches. Print or write the following:

BIRD CONCERT!
AT THE SCHOOLHOUSE
MONDAY AFTERNOON
[Date]
[Time]

Bird Day in the various states is not on the same day, so be careful of the date.

Have a program for each guest. Use white drawing-paper 6¾ by 6 inches. On 6-inch side fold a 2-inch lap, leaving a 4¾ by 6-inch space under the lap, on which print or write the program.

On the lap, paste a Scarlet Tanager cut-out (Bird Guide or Educational Leaflet). Below, paste the words "Bird Day," cut from red paper oblongs ⅜ by ½ inch.

During the month preceding Bird Day, hektograph large copies of birds and let children color them. Arrange them artistically around the room as soon as finished.

Hektograph on Manila drawing-paper two concentric circles, the outer, 8 inches in diameter, the inner, 7 inches, in which has been traced a Cardinal (Perry Picture Co.) It is necessary to hektograph two copies; in one the bird faces the left, in the other, the right. Color, cut out, and paste the two together. Cut two strips of Manila paper 12 by ½ inches, paste together, insert one end between the two circles, and paste so that the bird will be standing in the right position. Hang one in each window.

Arrange the front of the room as a stage, with three or more evergreens on each side of the stage, back of which the birds may stand. In every part of the stage where it is possible, place branches of trees to which twisted bits of pink paper have been pasted to represent pink blossoms of fruit trees. Cut the papers 4 by 3 inches with corners rounded, twist at center and paste on to bare twigs. Let the children do this.

In the song, "The Woodpecker," let the boys tap on their desks when they sing "Rap," etc.

In Art Song Cycles I and II, published by Silver, Burdett & Co., may be found beautiful bird-songs. Typical songs may be found in "A Little Book of Bird Songs," published by Longmans, Green & Co., and also, in "Songs about Birds," published by A. W. Mumford, 536 South Clark St., Chicago.

An attractive but inexpensive way to make costumes for the "birds" is this:

Ask each child to bring an old stocking, the top of which will go over the head easily. Cut off leg, to make a snug cap, then sew up, and cut, being sure that the cap comes well over the forehead. Buy rolls of cheap crepe paper in colors to represent "birds" as near as possible.

For Red-headed Woodpecker, for example:

1. Place cap on head.

2. Fit the edge of the *end* of roll of red crepe paper close to edge of cap. Cut it off a little below the child's neck in the back.

3. Pleat corners at front until paper fits head like a bonnet. Sew pleats, but do not let them meet under the chin.

4. Sew *end* of black paper onto red at back of neck. Cut off at waist-line, rounding the lower corners.

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5. Place *end* of white crepe paper under child's chin. Fasten one corner to pleats on left side of red cap; pin the other corner to pleats on right side. Cut off at waist, rounding corners.

6. Sew a short red bib over the white. Keep paper up around neck for a high collar.

7. Cover lap in back with black strip, lengthwise.

8. Make pointed bill, three-sided, of stiff paper 9 inches long.

9. Use yellow circles for eyes.

10. Leave opening at one side so the whole goes on like a bonnet.

11. Let "birds" go stocking-footed, or with stockings pulled over their slippers or shoes.

Fathers and mothers enjoy games on a program. The one described below is easily devised.

"IF I WERE A ——"

1. Use stiff cards 8 by 18 inches.

In right end mount a bird, one *well* colored by a child. Print, for example, "handsome Mr. Blue Jay" or "funny nimble Nuthatch" on their respective cards.

Have ten or fifteen such cards.

Place cards on chalk-tray.

TEACHER: "Earl, if you were a bird, what bird would you like to be?"

EARL (with his chosen card held by both hands so that each one in the room may see it): "If I were a bird, I'd be the handsome Mr. Blue Jay."

Each child, in turn, takes card to his desk, after replying to the teacher's question.

To replace the cards on chalk-tray, when all have been drawn, use this question and answer:

TEACHER: "Earl, what bird were you?"

EARL: "I was the handsome Mr. Blue Jay," (places card on tray).

THE FARMER'S FRIENDS

2. Prepare charts 9 by 24 inches.

Paste at top a picture of a bird, a Chickadee, for example. Below print its common articles of diet. Have ten such charts.

Let child with pointer stand near chart and say:

"The Chickadee is 5¼ inches long. It likes suet and bread crumbs. It helps the farmer because it eats canker-worms, plant-lice, caterpillars, etc." (from the chart).

ADJECTIVE GAME

3. Use chart paper, 24 by 18 inches.

Let an apt child color a Bronze Grackle, a Red-winged Blackbird, and a Crow. Cut out and mount one beneath the other in a vertical row on left side of chart. Opposite Bronze Grackle print "black"; opposite Red-winged Blackbird "blacker"; and opposite Crow, "blackest." Then the child reads: "The Bronze Grackle is black; the Red-winged Blackbird is blacker; but the Crow is blackest."

Teacher covers the Red-winged Blackbird. Child reads, "The Bronze Grackle is black, but the Crow is blacker."

Have three black objects near-by to compare. Vary the charts. Use tall, taller, tallest for water-birds, small, smaller, smallest, and large, larger, largest, etc., for land-birds. Compare height of two or three children. Six or eight charts are not too many.

It is a good idea to have fine wire nails, 8 inches apart at intervals along the top of the blackboard. Punch all charts 4 inches on each side of center. Hang on nails.

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NAMING FIFTY BIRDS

4. Mount pictures of fifty birds at least (Audubon or Perry Pictures) on attractive gray mounts. In various ways draw attention to them the month before Bird Day. During the last week let the pupils see who can name all of them. On Bird Day hang them across the front of the blackboard on a wire. Let the child who named them perfectly in school point to and name them. Parents are surprised by this exhibition.

TO PLAY THE GAME, "SEE, SAW, A, AN, ETC."

5. Use cards 6 by 12 inches. Print "I saw a," "I saw an," "I see a," "I have seen an," etc. on them.

Place these, with mounted pictures, on chalk-tray.

Let each child draw two cards to read, for example, "I saw *an* Oriole," and read them aloud. Another, "I have seen *a* Flamingo," etc. Parents learn the use of "see," "saw" "a," "an," etc. Ask the child why he said "an Oriole."

"BIRD-CALLS, SONGS, AND WHISTLES"

6. Child steps to front of room and says: "Chick-a-dee-dee."

Next child stands by his side, says: "Chick-a-dee-dee, "adding, "Bob-white, Bob-white." Third child stands in the line, sings: "Chick-a-dee-dee," "Bob-white, Bob-white" and adds the whistled notes of the White-crowned Sparrow.

Continue until all the children who can find a bird to imitate are in line. The fifteenth child, should give the fourteen sounds made before him and add a new one of his own.

RHYMES

7. Cards 18 by 12 inches (18-inch side is top). Print such a rhyme as the following, omitting the last word:

"When little field-mice go out for a walk,
They'd better look out for the hovering ———."

At center of lower edge of card punch a hole. Fasten a card-hook to picture of a Hawk. Child reads rhyme, chooses bird, and hangs it into the hole in the card when he says the word "Hawk."

Hang ten or twelve such cards on nails 8 inches apart on edge of blackboard. Stand the bird pictures in chalk-tray so that they may be easily available for selection.

There are fine rhymes in 'Babes and Birds' by Jessie Pope, published by H. M. Caldwell Co., New York and Boston.

A good reading is "*The Magpie's Nest*" (Art Literature Reader II). Let one child represent the Lark, one the Magpie, and so on, having one for the book itself, but read each part from the book just as in a reading-class.

If you can possibly do so, dramatize "*Cock Robin's Wedding*" (see July, 1915, issue of "Something To Do," 120 Boylston St., Boston, Mass.).

Dress "birds" in costumes described in this article. Teach calls, whistles, etc., of birds or use some tiny tin whistles found in prize candies.

A pretty way to introduce the guests at the wedding is to have a short song about each guest, as he or she arrives. I used "Songs about Birds." One child sang several as solos. If some tot dances well, let her represent a bird whose song has light music, dancing to her place around the stage. Have an "Owl" on a ladder and a "Whip-poor-will" on a high bench, etc.

If you cannot secure the "Wedding," use one of the following playlets: "Who Stole the Bird's Nest?" (Poems by Grades, Primary); "Laura and the Birds" (Brooks'

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Reader II); "The Cat and the Birds" (Brooks' Reader II); "The Tongue-cut Sparrow" (Japanese Fairy Tales I, by Teresa Williston). Little girls and boys dress in kimonos for the latter and many "birds" are along the roads.

Read "Why the Woodpecker's Head is Red," from "Book of Nature Myths" by Florence Holbrook. Let children rewrite it. Have the best story read on "Bird Day."

Make at least six beautiful reading-charts about birds with bird-pictures pasted on them.

If you have the "Audubon Bird Charts" let a child name the birds on them.

These birds make fine outlines to hektograph for the children to color.

I USED TO KILL BIRDS

By Henry W. Longfellow

I used to kill birds in my boyhood,
Bluebirds and robins and wrens,
I hunted them up in the mountains,
I hunted them down in the glens;
I never thought it was sinful—
I did it only for fun,
And I had rare sport in the forest,
With the poor little birds and my gun.

But one beautiful day in the springtime,
I spied a brown bird in a tree,
Merrily swinging and chirping,
As happy as bird could be;
And raising my gun in a twinkling,
I fired, and my aim was too true,
For a moment the little thing fluttered,
Then off to the bushes it flew.

I followed it quickly and softly,
And there to my sorrow I found,
Right close to its nest of young ones,
The little bird dead on the ground!
Poor birdies! For food they were calling;
But now they could never be fed,
For the kind mother-bird who had loved them,
Was lying there bleeding and dead.

I picked up the bird in my anguish,
I stroked the wee motherly thing,
That could never more feed its dear young ones,
Nor dart through the air on swift wing.
And I made a firm vow in that moment,
When my heart with such sorrow was stirred,
That never again in my lifetime,
Would I shoot a poor innocent bird!

[Other suggestions for Bird and Arbor Day exercises may be found in preceding years of Bird-Lore, in the issues of March–April. It is most desirable that great emphasis be placed this spring upon practical plans for increasing and conserving food- and fuel-

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supplies. An attractive exercise is to let a class or several classes illustrate the principal trees of the locality, showing branches, some of which will be in flower, and a group of other pupils illustrate the birds which nest in the respective trees. A chart representing a tree census of the neighborhood would make an excellent background for the pupils as they stand on the stage and exhibit and name the trees.—A. H. W.]

FOR AND FROM ADULT AND YOUNG OBSERVERS

[NOTE.—The Editor of the *School Department* desires to assure its readers that contributions are not delayed in publication without reason. In order to combine articles in as helpful a form as possible, or to include a certain number of articles and cuts in a certain space, it becomes necessary to hold matter over. In this section the emphasis is upon migration, late winter experiences, and school-room methods].

THE BLUEBIRD

Hark! and look
Just over the brook,
What is it I hear
In March's wind so drear?
Is it not my friend
The Bluebird I hear
Singing his spring song
So soft and clear?

—PAUL VOLKMAN (Age 12 years), *Naperville, Ill.*

THE LURE OF THE FEATHERED SONGSTERS

Many people believe that birds may be studied only in summer. They class quick, merry chirps or sweet prolonged notes with balmy May days or bright June days. These people only study and enjoy birds halfway, for is not this world still inhabited with feathered songsters during the six months of autumn and winter?

It is easier to study birds in winter, that stay all the year, as they cannot be confused with April migrants.

March 3, 1917, was a brisk, wintry day, with just enough snow on the ground to remind one of Christmas. Not many people would venture into the depths of snow-covered birdland, but, instead, went to pleasure-houses. They were unaware that the world's most lovely pleasure-ground lay open to them, and that they were even invited to this land that morning as the sun rose. Who invited them? The black-winged Crow told of the world's beauty by his lusty cawing.

A party of three, including an instructor, was lured into this land of everlasting beauty and joy.

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We had the pleasure of meeting a number of the large Sparrow family. They were the Fox Sparrow, Tree Sparrow and Song Sparrow. We heard the clear, sweet song of the Song Sparrow ring out over snow-covered meadows, and felt that our trip was worth while, even if this were its only pleasure. But it was not the only pleasure nor the greatest, for after a while we heard a loud chirping and, looking up, saw a large flock of Starlings. The chirping stopped abruptly, and we then heard the song of the Starling. At length the great flock rose and sailed across the leaden sky like a black cloud. I was delighted, for it was the first time I had ever seen a flock so large.

Later in our walk we heard the Downy Woodpecker and the Chickadee. Looking up, we saw, sailing over stately snow-laden hemlocks, which overhung a rippling silver brook, a Crow, the messenger of spring. He blended oddly with the silent study in black and white, the view of nature in repose.

Farther on we saw the little friend of the north, the Snowbird, hopping over his native element and pecking happily at a withered brown bean-vine. A short distance from him we saw the female Cardinal perched on a low bush. To our great joy, she flew down from the bush to the little stream under it and drank of its cold, crystal water. All this took place just beyond a rail-fence. At the fence was a clump of trees heavily laden with the snow. We were just turning away from the trees and the scene of recent discovery when we heard the wild clear cry of the male Cardinal. We were held breathless while those true notes of nature were sung by our little friend's mate. Every chord of our minds was entirely thrilled. Those few notes of the untaught bird expressed more of nature's wonderfulness than can be written on paper. They made one feel as though being a bird were the only life worth living. This half-minute of our walk was worth more to us than a day of ordinary indoor bird-study.

The only way to really study a bird or anything in nature is to go to the woods or fields and see it as it really is, not as others see it. Those who know nothing of nature have missed half the joy of life.—Emma May MacIntyre (Age 14 years), Secretary of the "Wake-Robin" Club, *West Philadelphia, Pa.*

[To see nature as "it really is" is surely worth many days of plodding indoor study. The plea for outdoor study is more than ever worthy our attention in these strained, unnatural times.—A. H. W.]

A SPRING NOTE FROM THE TEACHER OF THE WAKE-ROBIN CLUB

Our first spring walk was taken on March 3, with two of my oldest pupils, and original members of the Wake-Robin Club. The snow was 5 or 6 inches deep, but they wished to go. I myself had been exploring the snow-white country two days previously, and had found out rare birdland secrets. I was delighted to have these pupils go. My happy hunting-grounds are the creek valleys, where there is woodland, field, swamp, meadow, and bushes. I haunt the near-by creek section particularly.

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On two occasions, both snowy days, I saw seven Cardinals. I never before saw Cardinals there, and after I found them, I was attracted irresistibly to the place. I shall never forget the first one that favored me with a glimpse of his beautiful self. I was watching a flock of Fox Sparrows when the Cardinal, a male, flew out from their midst and alighted on a tall weed, about two feet from the ground, a bit of flame showing red against pure white snow. I remained transfixed until he flew. I saw flocks of Cardinals in Florida last winter, but to me this single rosy specimen, seen in depths of winter, made the most vivid, startling picture I ever feasted eye on in the bird-world.

I am learning to know the birds in this near-by creek valley quite well. Here, on these snowy days, February 19, I saw a Meadowlark; later, the Bluebird. Last week I saw the Carolina Wren and heard that clear and wonderful song. It seems all too loud to issue from a bird of its small dimensions. I caught a glimpse of a Winter Wren.

The Chickadees and Downy Woodpeckers, Juncos, Tree Sparrows, and Fox Sparrows are in the same locality. I have seen more winter birds this year than ever before, but when I took the class out they always seemed to beat a retreat. Along a two-mile stretch of road we counted thirteen nests of the Red-eyed Vireo, and I was able to show them the nest of a Goldfinch that had withstood the storms of winter.—Clara J. Clair, *Philadelphia.*

[The above record dates back to March, 1917, but we may gain all the more benefit from it by comparing it with observations made this spring. In addition to work with the children of the Wake-Robin Club, this teacher conducted a six-weeks' course in bird-study in the Philadelphia Normal School, having the students out for two hours or more each morning. It is to be hoped that sometime Miss Clair will tell us of her experiences with Hummingbirds during the nesting-season.—A. H. W.]

CORMORANT IN WESTERN PENNSYLVANIA

During the spring migration, when the Ducks were returning north, Mr. Kennedy, two boys, and myself happened to be at Barmore Lake. It was a good thing we happened to be there that morning or we would have missed a rare find. As we went around a corner of a vacant summer cottage, we saw a bird located on the top of a dead stub, several rods from us. It was about three feet long and three feet from wing to wing. It stayed there awhile, and then it was a beautiful sight to see it pose in mid-air a few seconds, then flying down the lake, where it lit. We watched it swim and dive and made sure of its identification before going away. We saw it once more that morning. It was flying northwest. Mr. Kennedy said, "You had better take another look as you will probably never seen another Cormorant in this part of the country."—Nevin G. Nicholson (Age 12 years), *Grove City, Pa.*

[The writer of the above note says: "Last spring I had a pleasant experience which I thought might interest the readers of Bird-Lore. I am twelve years old. Last year I listed 173 different species of birds, the rare ones being a Least Bittern, Cormorant, and

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Barrow's Golden-eye Duck. Mr. James Kennedy, one of the best authorities on birds and wild life in this section, and also a Director of the "Wild Life League," was always with us when we saw these rare birds, else we could not have identified them ourselves.

This year I have succeeded in getting a Junior Audubon Society in our room at school. I think it will be successful as our teacher is quite interested in the birds." Having studied birds from the age of seven in his home township, "an area of 18 square miles," the above record of 173 species is all the more interesting and valuable. If each observer would keep accurate yearly records about his own premises even, or in his own town or county, much information, at present not verified with sufficient accuracy to be strictly reliable, might be sifted and made useful for purposes of comparison in other sections. In many ways a concentrated, limited-area study has the advantage over unlimited wandering.—A. H. W.]

A THREE-TOED WOODPECKER

Three years ago I saw an Arctic Three-toed Woodpecker and made a description of it. I did not find out its name till the other day. According to Reed's "Wild Birds of New England" this species is not very common in Maine.

I am fourteen years old and enjoy bird-study very much. BIRD-LORE is a great help.—NORMAN LEWIS, *Hampden, Maine.*

MIGRATING BOBOLINKS IN ATLANTA

In April we were daily watching eagerly for spring migrants. On the 20th a watchman reported that on the previous night he had heard the loud call ("hollering") of migrating birds at intervals, and morning showed that we had a visit from a flock of Bobolinks. They took for headquarters a field of red clover, which had been planted in winter grain the previous year. Several males at one time would sway each on top of stalks of grain, thus being above the level of the field, and each would joyfully sing his heart out. The Bobolinks were with us until May 11, but evidently the personnel of the flock changed. At first, among fifty birds, only a few females were seen; later, when the flock numbered one or two hundred, about one in ten was a female; still later there was one female to five males while just before their disappearance, when not many birds were left, there were five or ten females to every male. During this period of time there were Bobolinks in widely separated parts of the city.—LUCY H. UPTON, *Providence, R. I.*

[Readers of BIRD-LORE will be glad of this record from the pen of Miss Upton, especially since it gives data on the confusing point of the order of migration among species. In Dr. Arthur Allen's monograph on the Red-winged Blackbird, it is said with regard to that species that "the normal migration (at Ithaca, N. Y.) can be divided into seven periods according to sex, age, and nature of the birds (whether resident or migrant), as follows:

1. Arrival of "vagrants."
2. Arrival of migrant adult males.
3. Arrival of resident adult males.
4. Arrival of migrant females and immature males.
5. Arrival of resident adult females.

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6. Arrival of resident immature males.
7. Arrival of resident immature females."

By the term "vagrants" is meant stray birds of either sex which may have wintered not far south of the locality studied, and which do not properly belong to the host of long-distance migrants whose first appearance is generally two weeks later.

"Vagrants," if seen, appear in February, but the migrants do not arrive until March. Since the Bobolink is closely related to the Red-winged Blackbird, belonging to the same family group, the observations of Miss Upton become all the more significant in the light of Dr. Allen's authoritative statements which are based on most careful studies.—A. H. W.]

THE ROBIN

I'm glad I am a Robin,
I'm glad that I can sing,
I'm glad that spring is fresh and sweet,
I'm glad for everything.

—ELINE RUSTIN.

SCHOOL LETTERS FROM LAWNDALE, PA.

I. ABUNDANCE OF ROBINS IN 1915

We have been doing a great deal in helping the birds. Nearly all the children in the Lawndale School are making bird-houses. The boys and girls in our room have at least forty-one houses put up. We have a great many Robins here this spring. I think that the Purple Martins are very scarce. In our room we account for the birds we see each day by writing them on the blackboard. We have about ten different kinds on the board to-day. There are a great many Woodpeckers around. Some of the boys and girls in our room formed an Audubon Society. They each received a button with a Robin on it. They are also getting a few pictures of different kinds of birds to color.—CHARLES HORNER.

[From season to season, the constant observer notes a difference in the numbers of some of the more common and abundant species. The Robin is particularly interesting in this connection, showing, as it is likely to do, considerable variation in abundance, at definite points of observation. How many of our readers have accurate data about this matter?— A. H. W.]

II. THE STARLING PUSHING SOUTH

I am writing a few lines about the birds. In our school-room the boys and girls have made forty-one bird-boxes and put them out. There are birds in some of them. This morning when coming to school, I saw two Robins. There are all kinds of birds in Lawndale.

I will name some of them. They are the Wren, Robin, Meadowlark, Bluebird, Purple Martin, and Starling. There are many more birds besides these. I am going to join the Audubon Society.—DOROTHEA K. PETRY.

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[Note the occurrence of the Starling wherever it has been observed in the United States. The above was written in 1915. A report of the number of Starlings now about Lawndale would be appreciated in this Department.— A. H. W.]

III. A GOOD SCHOOL-ROOM METHOD

We are writing about birds. There are a great many around now. Every day the girls and boys write on the board how many birds they have seen and what kind they are. We have forty-one bird-boxes. Some of them have eggs in them.

Some of us have seen birds carry food into the boxes. One boy says that he thinks he has young birds in his box. We put pans of water out for the birds to drink. Some of the boys and girls throw out crumbs of bread.—JOHN WAMBOLE.

[This exercise of writing on the blackboard in the school-room the names of birds seen is excellent. It helps pupils to spell correctly, to remember what they see, to have a common interest in the birds about them, and it also stimulates competition and a desire for discovery.—A. H. W.]

HOW I FIRST GOT BIRD-LORE

I was so interested in birds that a friend of my sister gave me some old copies of BIRD-LORE. I read them so many times that I could almost tell everything in them. My mother decided to give it to me for a Christmas present, and I have had it three years now.

I am writing this so that other BIRD-LORE readers will lend the magazine to bird-lovers and so that many people will know how interesting it is.—ALBERT S. FEARING (Age 12 years).

MY BACK-YARD FEEDING-STATION

This summer I started putting out food for the birds and since then my back-yard feeding-station has been one of my greatest interests. I started in July and my first welcome visitor was a White-crowned Sparrow, and for a long time that variety of bird was my only visitor. Then competition commenced and, of course, then I began to work harder because I wanted to have more birds than my competitor, a boy living next door to me. My friend had the advantage of position. Across the street from him is a garden with many shrubs and other attractions for birds. My friend immediately took away my most common visitor, a White-crowned Sparrow with a nest, but I am glad to say not all of my birds.

Then began my worst trouble and the only trouble that discouraged me for a while, worse than even cats and rats, both of which I have been bothered with—the English Sparrow. To me one English Sparrow means no harm, although I would rather not have any, but when it comes in numbers, such as ten and up, then there is trouble. It not only keeps other birds away but the amount

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of food eaten makes it impossible to keep up the food-station on account of the expense. This may sound foolish but a boy with a dollar a month allowance can't afford to spend twenty-five cents a week on food for birds. Now let me tell you that, although it is the greatest pleasure I ever had—putting out food for the birds—it, like anything else, has its cares and worries.

Finally a family of Juncos visited my friend's food-station and later visited mine. Then was the first and last time I have seen a Junco bathe. It was a young one. I guess Juncos are not much given to bathing.

Then I went to the beach, and when I got back there was not a single bird in the neighborhood. After waiting a long time I saw a Junco. Then I put out food, and in a few days there were about twenty back again, for we have counted nearly that many. Then came Song Sparrows and, once, a Towhee. Then again came the troublesome English Sparrow, and I abandoned the lunch-counter for a while. When I once again started in the Juncos and a Song Sparrow came back, and to-day the Towhees. On the whole, I think a food-station is a thing of great pleasure and advise others to try it.—Tom McCamant (Age 13 years), *Portland, Oregon.*

[This record of practical experience ought to be of value to others.—A. H. W.]

BIRD-HOUSES FOR A CITY PARK

Dr. R. J. Terry, the local president of the Bird-Lovers' Club here, suggests that I send the enclosed prints.

Your magazine, to the best of my knowledge, has never printed anything from this locality.

The Martin-house shown was constructed by the several boys grouped about

BIRD HOMES FOR FOREST PARK, ST. LOUIS

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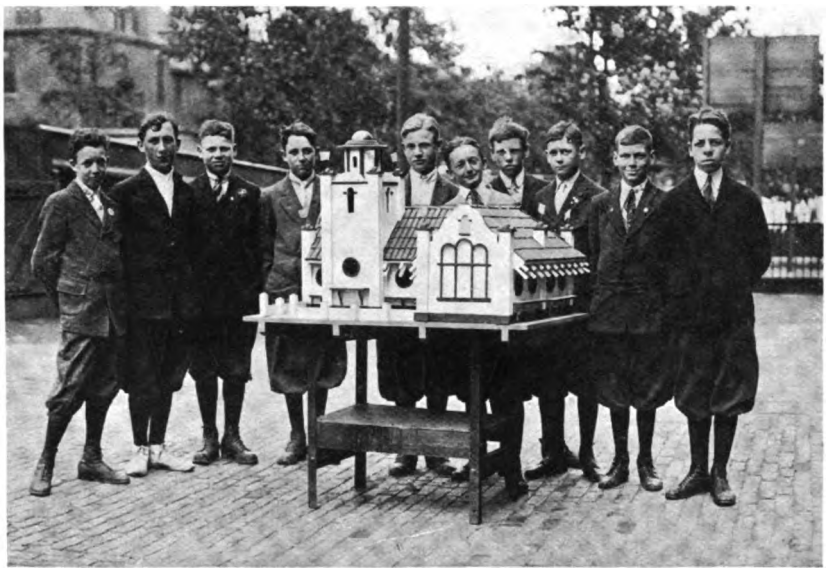

A 'MISSION' MARTIN HOUSE

it. It is a replica of a Spanish mission, containing sixteen rooms of size given in U. S. Bulletin No. 109. There are over five hundred tiles upon the roof, each one of which was made from rough stock lumber.

The large group of houses were built from slabs, the waste product of a walnut lumber firm having a contract to make gunstocks for the armies of France and England.

All the houses were built to be placed in Forest Park, the home of thousands of 'house-nesting' birds.—CHAS. P. COATES, *Instructor in Manual Training (Marquette School), St. Louis Schools, St. Louis, Mo.*

[Communications are printed as soon as space permits. If delays seem long the Editor of the School Department begs the reader's favor. The good work described above is in line with progress.—A. H. W.]

HOME OBSERVATIONS IN THE SOUTH

My papa loves the birds and feeds them on the window-sill every winter. We had twelve different kinds of birds that ate from our window. One day a Mockingbird came for his breakfast while mamma was playing the piano. He turned his head first to one side then the other and looked at her for a long time. I think he was trying to learn the tune so he could whistle it to his mate while she sits on her nest this spring. One day I went for a walk with papa and we met two Mockingbirds that kept scolding us. We looked in a small pine bush and saw a pile of twigs. Papa held me up and I saw four little birds in the nest, and they had no feathers on them but they were real black. About a week later we went to the nest again and when papa held me up the little

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birds were covered with feathers and seemed afraid of me. Three days later we saw one of the old birds feeding the young ones, but could not find the other old bird. A few days after this we went again to look for our birds and found a new nest and the mother bird sitting on the nest but she flew off and began to scold when we went near. Papa held me up and I saw three green eggs covered with brown spots. Late this fall one morning I saw the mamma and papa and seven children birds eating holly berries from a tree in our yard. It is nearly Christmas now, and we see our family of Mockingbirds most every day.—WYNELL REEVES (Age 7 years), *Winston-Salem, N. C.*

[Accompanying this straightforward statement of bird-records about home, is a note saying that the article was prepared solely by the young observer. It may be of interest to southern readers to know that Mockingbirds have been seen more frequently in the North this season than usual. The ability of other species to imitate sounds is a question of much interest. How many species other than the Mockingbird can you name, which imitate sounds?—A. H. W.]

NATURE-STUDY AND AUDUBON SOCIETY

We have seventy-six members in our society and most of them have been members for three years. We have a meeting once every two weeks, at which the officers take charge and different members help prepare the program.

SOME OF THE MEMBERS OF THE JUNIOR AUDUBON SOCIETY OF PEORIA, ILL.

When the weather is pleasant, we have some of our meetings out-of-doors, and we go on field-trips, six or eight at a time, with our leaders, to look for birds and listen to their songs and calls.

Our school-building is near the edge of the city, and there is a field just back of the school which has many trees and a creek running through it. Many birds live there.

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We love birds and are glad to learn more about them and to help protect and feed them.—MARGARET DOUGHERTY, President, RUSSELL PLANCK, Secretary, *Columbia School, Peoria, Ill.*

[The teacher who sent this picture and letter writes: "We have a large and enthusiastic society composed of the children of the fifth and sixth grades. In a contest among the Junior Audubon Societies of the state last year, our club won second prize for their study of birds, and their efforts in protecting them. The six excellent books about birds which they received encouraged and helped them in their bird-study this year. They have been keeping close watch of the birds as they return, and are learning their songs and calls." The value of *careful study combined with enthusiasm* is told in this brief report. Distinguishing the songs and call-notes of birds is evidence of a high grade of work.—A. H. W.]

A SONG SPARROW IN JANUARY

January 1, 1917, was a "red-letter day" for me. I was putting up bird-houses with a friend of mine, when I heard a familiar song. I looked up, and on the top of a maple tree I saw a Song Sparrow. Two days later I saw it again.—HENRY SHAW, JR., (Age 11 years), *Morristown, N. J.*

["Red-letter day," the very phrase suggests the delightful discoveries always awaiting the bird-lover, like this of a Song Sparrow in midwinter. Many people have found bird-study unusually attractive this last winter, because the severity of the weather in some sections made birds more than ordinarily dependent for food upon the hospitality of man. With harbors and rivers frozen solidly for weeks, flocks of Gulls and Ducks were at times practically deprived of accustomed food-supplies. In one instance, Herring Gulls came some distance inshore to pick up corn muffins thrown out by a bird-lover who happened to have nothing else at hand to offer them. The habit of Gulls and Terns of alighting on floating drift, buoys or any available foothold at sea, has become of immediate benefit to man. More than once in the present war, ships have discovered their proximity to mines by spying Gulls over them.—A. H. W.]

THE BOHEMIAN WAXWING IN OREGON

On the afternoon of February 7, 1917, I saw a rather rare visitant, the Bohemian Waxwing. While on a bird walk I stopped to observe some birds that were feeding on wild hawthorn berries, not far from Mt. Tabor Park, and while there I saw a flock of eighteen Bohemian Waxwings. I am very certain that there is no mistake as to their identity, for they corresponded in every detail to the description in Florence M. Bailey's "Birds of Western United States."

On January 24, I saw, in this vicinity, one bird that I thought was a Bohemian Waxwing, but I was not absolutely certain, as I did not know then the distinguishing marks for which to look. However, when I saw the flock of eighteen on February 7, I noted particularly the size, larger than the Cedar Waxwing, which is quite common here in summer; the white wing coverts, and broader band of yellow on the tail.

On February 9, I again noted twelve Bohemian Waxwings, probably of the

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same flock noted previously, as it was in the same vicinity. I think these birds were probably migrating, and not in their usual course, as they are considered rare in this part of Oregon.—MARY E. RAKER (Age 13 years), *Portland, Oregon.*

[Bohemian Waxwings have been seen in Massachusetts this winter. A possible first record in Rhode Island was not sufficiently well established to be recorded.—A. H. W.]

A NOTEWORTHY CONTEST

A FEW OF THE CONTESTANTS WITH THEIR HANDIWORK

This photograph was taken immediately after the close of our first bird-house contest. There were nearly a hundred entries and an exhibition that would have done your heart good. The results have been permanent, I think. There was a prize offered for the boy who first reported a bird building in one of the houses which had been on exhibition. The first bird to settle was a Blue-bird, and the lad who erected the house received a check for five dollars.—O. WARREN SMITH, *Washburn, Wis.*

[Two other most attractive photographs were sent by this contributor, a minister who has done much excellent work among the young people of Washburn. If there was available space for the illustrations which are received with articles sent to this Department it would be a pleasure to print them all.—A. H. W.]

OLD MOTHER ROBIN AND HER BABES

Old Mother Robin built her nest one spring, about eleven years ago, in the old pine tree in front of Grandma G———'s house. She made it of strings, grass, twigs, and mud. When she had it about the right shape, she laid four little blue eggs in it. In about two weeks there were four little birds instead of the eggs.

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When the little birds were old enough to fly, she crowded them out of the nest on to the limb. One of the little birds went to the ground and sat there. The old bird flew down to the little bird and talked to him. Then she hopped a few inches away, and the little bird hopped to her. She continued this a few times, after which she went about three feet away; but the little bird did not come. She then hopped about half-way back, and chirped; still the little bird did not come. By this time she was provoked, and rushed back, and pecked him on the head. Then she flew to the fence, and the little bird flew up to her. She then flew away to let him take care of himself.—DALLAS VERNETT GIBSON (Age 11 years).

BIRDS I HAVE SEEN

Crow.—March 12, 1914, in a tree on west of street, on my way to school. Color, black.

Robin.—March 24, 1914, in a cherry tree between our house and the one next door. Color, brown on back and light red on breast.

Dove.—March 22, 1914, on one of the buildings down town. Color, purplish blue and brown and red.

Sparrow.—March 23, 1914, in front of the hotel. Color, brownish gray.

Phœbe.—March 24, 1914, at the place next door. Color, brown and black.

Woodpecker.—March 24, 1914, at the first farm east of town. Color, red and black.

Flock of Wild Geese.—April 1, 1914, flying south. Color, brown and black.

Bobolink.—April 11, 1914, on our lot back of the barn. Color, black and yellow.

Blackbird.—April 16, 1914, on the top of a barn. Color, black and brown.—LAWRENCE P. BRIGGS (Age 10 years), *Apulia Station, N. Y.* (Member of class 524.)

[The teacher of this class writes: "This is the manner in which the pupils report their observations. These different reports make up the school bird calendar.

"In this report the Blackbird I believe to be a Cowbird from the description, but as I did not see it myself I am not positive."

As a method of reporting birds, the above has certain points in its favor. It is always desirable to note the locality where one sees a bird, even rather minutely, as detailed particulars suggest the nature of its habits in perching, singing, flying or searching for food and nesting. The date of a record is also an indispensable part of an accurate report, and as careful descriptions as one can make of the color and appearance of the bird seen.

In addition to theses points, the *size*, form of bill, head, wings, and tail, kind of feet expressed by noticing whether a bird walks, hops, clings, clutches, paddles, wades, or runs are very essential matters which in reality are often of more assistance in identification than color, since colors appear very different in changing light and shade.

A daily bird calendar and, also, a flower calendar are fine additions to any schoolroom. Teachers everywhere will find them well worth the time and trouble given to keeping them accurately.—A. H. W.]

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THE RAVEN

By T. GILBERT PEARSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 95

One July morning, in company with Edward H. Forbush and William P. Wharton, I landed on a small wooded island off the coast of Maine to visit a group of Herons said to be nesting there. Clambering up the rocky shore, we proceeded, with some difficulty, through the thick underbrush of the evergreen forest until the heronry was reached. Here the trees were more scattering, and the sun's rays, breaking through, were ripening the thousands of gooseberries that covered the network of vines below. A few pairs of Great Blue Herons were found, and their nests and young soon discovered. The main colony, however, consisted of Black-crowned Night Herons. Approaching a tree where one of their nests was located, I was surprised to find on the ground beneath, the remains of four young birds about one-third grown. The flesh had been picked from the bones, but these were in no way broken, which precluded the possibility of the mischief having been done by a predatory animal, if indeed any such existed on the island. While we stood about discussing the matter, a cry so wild and unusual rang through the damp woods that in an instant our attention was riveted on the sound. Presently it was repeated and was quickly answered from two other directions.

At once we began a search, which soon resulted in finding that the calls emanated from a family of young Ravens, now well grown, but still attended by their parents. The evidence that the Ravens had destroyed these young Herons was indeed scant. However, I believe all the members of the party, knowing something of the habits of these birds, still regard it as probable that it was the Raven family that had raided the big stick nest in the evergreen trees. That something was feasting liberally on young Night Herons was quite plain, for we found the fresh skeleton remains of at least a dozen of these birds, and a more thorough search of the colony might possibly have revealed others. This was on Bradbury Island, in the year 1914.

A few days before this, Ravens and a Raven's nest were found on Heron Island. On another occasion, in company with Arthur H. Norton, I was shown a large nest in an evergreen on No-Man's-Land Island, which we were told had been occupied by a pair of Ravens every spring for many years. Ravens may be found also on Old Man, Black Horse, and, in fact, on almost any of the uninhabited islands along the Maine coast.

In a little opening in the woods back of the Lake Hotel in Yellowstone Park, Wyoming, the garbage from the hotel tables is dumped. Thousands of tourists annually visit this dump to see the bears that come out to feed there in the

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NORTHERN RAVEN

Order—PASSERES
Genus—CORVUS
Family—CORVIDÆ
Species—CORAX PRINCIPALIS

National Association of Audubon Societies

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evening. This garbage-heap affords another interest to the bird-student, for Gulls come up from the Lake and settle here in quest of food, and not infrequently the hoarse croak of the Raven may be heard in the trees nearby. In fact, these great black birds come at irregular intervals all during the summer to pick up such scraps of food as strike their fancy.

In August, 1916, I saw a Raven feeding her three young with scraps picked up at a garbage-heap back of a hotel on the western verge of the Glacier National Park in Montana. Although aware that she was being watched, the old Raven would unhesitatingly come to the garbage-heap, walk around until she found something that suited her taste, and then fly with it to the trees 50 yards away. Apparently she would not suffer her young to leave the shelter of the forest. The wide range of the croaks and cries made by their young was astonishing.

Anyone who may chance to be in the mountains of western North Carolina and may desire to see Ravens can usually have his wish gratified by going out to some of the remote settlements and visiting the places where cattle are slaughtered for market. Sometimes as many as eight or ten Ravens gather around a slaughter-pen and with evident impatience await their opportunity for a banquet.

From the above references it may be seen that the Raven has a wide range in the United States. In fact, there are few states north of South Carolina and Louisiana where it may not be seen, although its range is far more restricted than in former times. Many of the early writers speak of seeing Ravens in territories not now inhabited by them. For example, Thomas Lawson, Gentleman, who visited the coast country of Carolina in the year 1700, writes of seeing it there. Today Ravens rarely, if ever, occur east of the mountainous portions in the Carolinas.

Regarding the habits and manners of the Raven during the nesting-season, John James Audubon has given this description in his usual picturesque language:

"Their usual places of resort are the mountains, the abrupt banks of rivers, the rocky shores of lakes, and the cliffs of thinly-peopled or deserted islands. It is in such places that these birds must be watched and examined, before one can judge of their natural habits, as manifested amid their freedom from the dread of their most dangerous enemy, the lord of creation.

"There, through the clear and rarified atmosphere, the Raven spreads his glossy wings and tail, and, as he onward sails, rises higher and higher each bold sweep that he makes, as if conscious that the nearer he approaches the sun, the more splendent will become the tints of his plumage. Intent on convincing his mate of the fervour and constancy of his love, he now gently glides beneath her, floats in the buoyant air, or sails by her side. Would that I could describe to you, reader, the many musical inflections by means of which they hold converse during these amatory excursions! These sounds doubtless express their pure conjugal feelings, confirmed and rendered more intense by long years of

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happiness in each other's society. In this manner they may recall the pleasing remembrance of their youthful days, recount the events of their life, and express the pleasure they enjoy.

"Now, their matins are over; the happy pair are seen to glide towards the earth in spiral lines; they alight on the boldest summit of a rock, so high that you can scarcely judge their actual size; they approach each other, their bills meet, and carresses are exchanged as tender as those of the gentle Turtle Dove. Far beneath, wave after wave dashes in foam against the impregnable sides of the rocky tower, the very aspect of which would be terrific to almost any other creatures than the sable pair, which for years have resorted to it, to rear the dearly-cherished fruits of their connubial love. Midway between them and the boiling waters, some shelving ledge conceals their eyrie.

"To it they now betake themselves, to see what damage it has sustained from the peltings of the winter tempests. Off they fly to the distant woods for fresh materials with which to repair the breach; or on the plain they collect the hair and fur of quadrupeds; or from the sandy beach pick up the weeds that have been washed there. By degrees, the nest is enlarged and trimmed, and when everything has been rendered clean and comfortable, the female deposits her eggs, and begins to sit upon them, while her brave and affectionate mate protects and feeds her, and at intervals takes her place. All around is now silent save the hoarse murmur of the waves, or the whistling sounds produced by the flight of the waterfowl traveling towards the northern regions."

In general appearance the Raven closely resembles a Crow, but it is larger. A Crow rarely is more than 18 or 20 inches in length and has an expanse of wings of less than 3 feet. A Raven is 2 feet long from bill-tip to tail-tip and measures 4 feet or more across when its wings are spread to their full capacity. A close inspection of the two birds reveals a certain marked difference in the shape of the feathers of the neck, those of the Crow being rounded at the ends, while those of the Raven are sharply pointed. In flight the two birds may usually be distinguished, as the Raven has a way of sailing at times to an extent rarely, if ever, equaled by a Crow. The well-known caw of the Crow is replaced in the case of the Raven by a croak so deep, so unlike any other sound in nature, that once heard it is not easily forgotten.

As indicated above, Ravens build their nests on the ledges of cliffs or in trees. These usually are bulky, and as additional materials are brought year after year, they grow in some instances to be very large affairs. The eggs range in number from two to seven. In color they are olive or greenish, thickly spotted and blotched with olive-brown. Twenty days of brooding are required to hatch them.

The Raven's food consists of a wide variety of objects, but evidently animal matter predominates. They eat grasshoppers, beetles, lizards, mice, and young birds. They are scavengers and feast upon dead animals, both large and small.

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In August, 1916, while working about Malheur Lake in the deserts of southeastern Oregon, we found Ravens much in evidence. During a day's travel of perhaps 30 miles about the Lake, I saw at least a dozen individuals. Usually only one or two would be seen at a time. One that kept in front of us for some distance, alighting at intervals on the posts of a barbed-wire fence carried an object in its beak at which it would peck and pull whenever it perched. Once, just as it took wing, my companion fired a shot from his revolver, with a view of startling the bird and causing it to drop its prey. The experiment succeeded, and, picking up the object, we found it to be a section of a rabbit's backbone about 2 inches in length.

Writing of the Raven's feeding habits, Alexander Wilson said: "It is fond of birds' eggs, and is often observed sneaking around the farmhouse in search of the eggs of the domestic poultry, which it sucks with eagerness; it is likewise charged with destroying young ducks and chickens, and lambs, which have been weaned in a sickly state. The Raven, it is said, follows the hunters of deer for the purpose of falling heir to the offal; and the huntsmen are obliged to cover their game, when it is left in the woods, with their hunting frocks, to protect it from this thievish connoisseur, who, if he has an opportunity, will attack the region of the kidneys, and maybe the saddle, without ceremony."

Throughout all ages certain birds have been famous, and very often much significance is attached to their presence. They have been regarded as affecting the lives of human beings by bringing joy or sorrow. Thus the Cuckoo is the ancient marriage bird; the Eagle stood for strength and vigor; the Bittern represented desolation; and, in our own country, we have the Bluebird for happiness. The Raven, which has a wide distribution throughout the world, has more or less typified the coming of calamity. It has been one of the favorite birds of literature. In the ancient Hebrew writings we find that the Raven was the first bird that Noah sent out from the Ark. When Elijah was a refugee and was hiding by the brook Cherith, we are told that the Ravens came daily and brought him food. Despite the fact that it appears to have been useful to some of the early Hebrews, Moses wrote down in his law that this was an unclean bird.

Shakespeare was fond of referring to the Raven. Thus, when Lady Macbeth was told that Duncan was coming, she said, while laying her plans to kill him:

> "The Raven himself is hoarse
> That croaks the fatal entrance of Duncan
> Under my battlements."

In our modern American literature surely nothing so weird or depressing has ever been written as Poe's 'Raven.'

Two sub-species of the large Raven are recognized in this country: One, the American Raven, found in western United States and south to Guatemala, the other known as the Northern Raven inhabiting eastern North America.

Ravens are supposed to live to a great age.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

DEATH TO THE PELICAN!

During January there began a great outcry against the Brown Pelican at various points along the Gulf Coast of the United States. Those who have been showing the most active interest in starting a war on these big picturesque birds are people financially interested in commercial fisheries. The claim is being put forth that Pelicans are eating up the fish at such a rate that the birds must be destroyed if we are going to have sufficient food to feed our people and win the war against the Kaiser.

The *Evening Independent* of St. Petersburg, Fla., has championed these food conservators of the Tampa Bay country. The articles which appear in its pages tend to show that the Federal and state governments have done a very foolish thing in seeking to protect birds that are so terrifically destructive to fish. Editorially this paper says:

"It is time that the Government was informed as to the destruction that is being wrought by Pelicans in southern waters. The Pelicans are protected by a National law and therefore are thriving and increasing in number, and it will be only a few years until the people will have to choose between the Pelicans and the fish. The Pelican is no earthly use to anybody and serves no useful purpose. The fish are needed to help supply the deficiency in food.

"One Pelican will consume 100 to 300 small fish in a day. Multiply that by the thousands of Pelicans in this section, and you have some idea what the Pelicans do to destroy fish. It is a tremendous price the Government is paying to satisfy a few sentimentalists who want to save the birds."

Captain Barney Williams, Deputy Fish Commissioner at St. Petersburg, has advanced a plan which he thinks will take care of the matter locally. His plan is to destroy all the eggs laid by Florida Pelicans for a period of five years, and then let them have one year in which to bring forth their young.

The *Evening Independent* announces its hearty approval of this plan.

At the last two sessions of the legislature of Texas, bills were introduced which had for their purpose the authorization for people to kill Gulls and Pelicans along the coast of that state, because of their alleged destruction to food-fishes. From this source fresh complaints are now coming. They claim that fishermen should be

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relieved of the presence of the Pelican, because it greatly interferes with their business..

It is but natural that the Pelican opponents should file complaints with the United States Food Commission in Washington, and as a result the Association received the following letter under date of January 21, 1918.

Dear Sir:

We are receiving many very definite requests from the Gulf of Mexico district that the Government take steps to exterminate the Pelican.

"The recommendations in this matter are very largely grounded on the following statement of apparent facts:

"1. That the birds in question annually destroy millions of pounds of food-fish.

"2. That the birds interfere very materially with the operations of the fishermen and result in very largely reduced catches of food-fish in all the fishing districts.

"3. The Pelican serves no useful purpose whatever, and is not a scavenger, never having been known to eat fish that have been washed ashore, etc.

"While we are not at present considering any recommendations in this matter, we would very much like to have a full expression of opinion from your society on the subject and any data which you can provide us with regarding the Pelican, and as answer to the very definite statements which are coming to us, as before mentioned."

Very truly yours,
UNITED STATES FOOD ADMINISTRATION.
Per KENETH FOWLER.

Upon receipt of this letter, a copy of it was sent to a number of observers who have had more or less opportunity to study the feeding-habits of these birds, and their replies, in due time, were filed in Washington. These were quite sufficient to convince the Food Administration that at least for the present there was no need for beginning a war of extermination on the Brown Pelican.

Since Mr. Fowler's letter was written, new and additional pressure has been brought to bear on the Food Administration, and the question at the present writing is a very live one. As a result the Association is now planning to go somewhat thoroughly into the subject of the feeding-habits of the birds during the coming summer.

The following are a few of the letters collected by the Association bearing on this subject. The first three are written by men who have been employed for many years to guard Pelican colonies and who therefore have had unusual opportunities to study the fishing-habits of these birds. We feel that their letters should be published and thus be made a permanent record.

In Defense of the Pelican

"It would appear that, through the efforts of the market fishermen, the Food Commission is seriously thinking of taking steps to exterminate the Pelican as a great destroyer of food-fish.

"In defense of this grand old bird I wish to say that I am a native of Florida, have lived here continuously for fifty years, and have noted very carefully the changes of conditions along these lines. Before the advent of the railroads there were vast quantities of fish and many thousands of birds, but with the emigration to the state came along the market fishermen who have plied their trade without restrictions until there have become fewer fish and consequently fewer Pelicans.

"If the Food Commissioner could visit the fishing districts of Florida and see the vast destruction of fish caused by the fishermen, he would no doubt take immediate steps to stop this wanton waste of the best food-fish that the waters of the state afford. They drag their seines on the beaches, and I have seen, day after day, tens of thousands of food-fish left on the banks to die because they were too small to sell, and the fishermen were too lazy to put them in the water again.

"My business as Inspector of Federal Reservations takes me among these men, and I have noted these conditions many times, and have several times brought the matter before the Fish Commissioner and the County Solicitor, with a view of having these people prosecuted for the very acts of which they now accuse the Pelican. It is a well-known fact that the Pelican can catch only such fish as are on the surface of the water, and, with one exception—the mullet—the food-fish of Florida are what are known as bottom-fish, and cannot be caught by the Pelican.

"At least twice each year, in the breeding-season of these birds, I visit their nesting-places and carefully note the species of fish they bring to their young. These

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consist almost entirely of menhaden and other small, bony fish that they catch far out in the ocean.

"The Pelican is a harmless, very interesting and companionable old fellow, a very great attraction to the many thousands of persons that annually visit both coasts of Florida, and its extermination would not in my opinion better the fishing conditions in Florida.

"Referring again to the fishermen, I may mention that although more fish have been killed by the cold water this winter than ever known before, fishermen are making unusually large catches on the East Coast, and I have heard no complaints against the Pelican from this quarter."

(Signed) B. J. PACETTI,
Inspector of Federal Bird Reservations.

"I am sorry to hear that this question has been brought up again about the Pelicans destroying food-fish. I am not very familiar with conditions on the Gulf Coast, but I know it is not the case here. Answering these questions in order—

"1. The Pelicans here feed almost entirely on menhaden which are not a food-fish.

"2. The birds have been known to take a few fish out of set nets sometimes, if left too late in the morning. This is the only interference they have been guilty of, and this has never been serious.

"3. As to their not being useful as scavengers, one has only to pay a visit to the fishhouses during a good run of fish, and they will see the birds gathering in all the foul fish thrown overboard, which would otherwise float ashore, create a nuisance, and be a menace to health. Regarding the reduced catches of fish, this is caused mainly by the fisherman's own greediness. There has been no law framed yet that the fishermen have not broken. The chief trouble is that the size of mesh in nets has been steadily reduced until now they are catching fish unfit for market, and unless something is done soon, the fishing business will be a thing of the past, especially if the new ruling of the food control is adopted to take off all restrictions for the period of the war.

"There is more damage done to fish by one small school of porpoises than all our birds, and yet they are not condemned, and if we destroy the Pelicans, the other water-birds would also have to go, as most of them eat fish. When I first came to this country, in 1881, these waters were teeming with fish of all kinds—evidently the birds had not reduced them any at that time—but after netting started it was soon possible to see a difference.

"At present, fishing is getting to be so poor in these waters that many of the fishermen are leaving for other points.

"In view of the foregoing I cannot see a good reason for condemning these birds at present. The fishermen are catching out the fish, and if we destroy the birds it will be a bare country indeed. There are so many people that find pleasure in seeing them. They would miss the bird-life very much indeed.

"Several years ago I sent the Department of Agriculture a supply of fish gathered at the Island, and it will be on record as to what kinds are mostly used here to feed young. At that time we found they used mostly menhaden, a few thread herring, butterfish, porgies, and other sea-fish; there were very few river-fish, such as mullet, sea-trout, whiting, or others.

"I enclose clipping that bears on this question. It will be seen from this that the restrictions were the cause of the reduced catches, as the Pelicans do not go that far, and the birds were never known to catch the kinds mentioned here.

"If the Food Administration will investigate this, I can show them the reason for the reduced catches. I can show them sea-trout brought in (caught in seines), 6 inches long, which, if allowed to grow would be 24 inches in two years, and weigh fifteen pounds. Is it any wonder that the fish are giving out? We have good laws to protect the fish, but the large dealers always manage to break them."

(Signed) P. KROEGEL, *Warden,*
Pelican Island Bird Reservation, Fla.

"In reply to your communication I would state that from my close observation of the Pelican and his habits, I cannot understand how one could say that he destroys millions of pounds of food-fish. I find that he lives chiefly on small mullets and sardines, which are not classified as food-fish in this section. How the birds could interfere materially with the fishermen is not within my power to say, since I know of no way that they could. The number of Pelicans in this section today is 50 per cent less than three years ago.

"What really is destroying the food-fish and shrimp today, more than any other known enemy, is the shrimp-seines, that in their search for shrimp catch millions of small fish which are left to die upon the shores. This is one of the greatest enemies that we have today. In the operation of the seines, millions of fish are caught in the meshes, and while hauling them for hundreds of yards through the water, they become entangled in the seine-meshes and are frequently dead, even before the haul is complete. It will

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only be a question of time when the food-fish of this section will be destroyed by the seines, and not the Pelican."

(Signed) CAPT. WILLIAM M. SPRINKLE, *Warden, Breton Island Bird Reservation, La.*

"While it is not possible to point out the positive benefit done by Pelicans, it is certain that the damage done by them is by no means so great as claimed. Pelicans feed indiscriminately upon whatever fishes are available, hence make only a minor proportion of their diet of fishes customarily used as food for man, since these fishes themselves are in the minority among fishes in general. The Pelicans' habit of feeding only in shoal water also prevents them from destroying some of the valuable fishes; in fact, most commercial fishes are caught in depths of water which are untouched by Pelicans.

"Finally, there must be kept in mind the risk of disturbing the balance of nature. In the course of ages Pelicans and their living environment have become fitted to each other in such a way that the existence of neither the birds nor their prey was endangered. No one can predict what might occur were the balance seriously disturbed."

(Signed) E. W. NELSON,
Chief, U. S. Biological Survey.

"I am not surprised to learn that the fishermen of the Gulf region are using the Food Administration to advance their attack on the Pelican. As a nature-lover who does not reduce every living creature to terms of dollars and cents, I am, of course, unalterably opposed to their demands. The colonial nesting-habits of Pelicans would make it possible practically to exterminate them in a season, and before we take a step which never could be undone, and rob our coasts of their most interesting and picturesque form of life, we should be absolutely sure that we are right and that the Pelican is as destructive as it is said to be. I claim that the case against it is not proven for the following reasons:

"*First*, on the east coast of Florida—a region with which I am familiar—fish were far more abundant when Pelicans were more numerous.

"On the coast of Peru—a region I also know from personal experience—Pelicans are more abundant than in any other part of the world, with no decrease in the food-fish of that region.

"*Second*, in east Florida waters, Pelicans, in my experience, feed chiefly on inedible fish—like menhaden.

"*Third*, Pelicans feed in the main on fish too small to be marketed and a very large proportion of which would not live to reach maturity, if they were not taken by Pelicans.

"*Fourth*, Pelicans take a fish here and another there, and cruise over a comparatively wide area, so that at the most their total catch has no appreciable effect on the local fish-life.

"It would be far more to the point if fishermen were to observe the laws designed to protect fish and not blame the Pelican for conditions which they have brought about through their own short-sightedness."

(Signed) FRANK M. CHAPMAN.

"There was a large gathering in this city of the various people interested in fish and the Food Commissioners of Alabama, Mississippi, Louisiana, Georgia, and Florida. A resolution was introduced along the lines suggested in your letter to exterminate all fish-eating birds. I was requested to answer this statement, based on the fact that for many years I have hunted, fished and cruised over a large part of the Gulf.

"My firm belief is that nature provided the bird as a valuable adjunct to the fish. An immense amount of the food for the various game-fish which thrive in the waters of the Gulf are represented by minnows and other small fish which are unsuitable for food, Many of these fish cannot capture their food when it is on the surface of the water. The various Gulls and Terns drive these small fish under the water where they are promptly used as food by mackerel, trout, redfish, and vast numbers of other game- and table-fish.

"The same applies in regard to the sardines, or menhaden, which are very plentiful in the waters of the Gulf. None of these small fish are edible, and by countless millions they furnish food to what we call food-fish. Almost without exception, where you find quantities of birds, you find quantities of bait of all kinds. Repeatedly have I seen schools of shrimp running right along the surface of the water, where it was difficult for the game-fish to capture them because they skim right along the surface, but on the appearance of a few Gulls, these shrimp would be driven below the surface and furnish food to all varieties of table-fish.

"The principal charge I have heard against the Pelican is his consumption of mullet. My judgment is that this is rather limited in comparison with his consumption of sardines, and with the wonderful reproductive powers of the mullet, the small amount consumed by the Pelican does not seriously interfere with our food-supply.

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"Nature itself seems to have provided that birds and fish each work to help the other, and my plea against the extermination of the bird seems to have fallen on very fertile soil, because, without a single exception, every fisherman present corroborated the statements made, and the importance of the conservation of bird-life, due, first, to their enormous destruction of insects of every character, and, second, to the fact which I emphasize, that they are of very great assistance to the fish in driving their food where it can be readily caught.

"I hope this brief information will be of some value to you, and would appreciate corroboration of my views from your records."

(Signed) JOHN M. PARKER,
New Orleans, La.

EGRET PROTECTION THREATENED

Every year the Association collects, from its members and friends, contributions to be used for the specific purpose of extending protection to the white Egrets that are killed to get the 'aigrette' for the millinery trade. This support in the past has been sufficiently generous to enable the Association to accomplish a number of notable results. For example, the passage of the law in New York state which prohibits the sale of these feathers, as well as the feathers of other native protected birds within the borders of the Commonwealth.

Also, the Association was able to wage a campaign in Pennsylvania for the passage of a law which made it illegal to sell these trophies in that state. Similar campaigns have been conducted elsewhere, and now the laws of fourteen states prohibit merchants from dealing in these feathers. We have been able to coöperate with the State Game Protective officials in New York and elsewhere in bringing numbers of law-breakers to justice, who were forced to pay large fines for illegally selling aigrettes.

Every spring, men are employed to guard the few remaining breeding colonies of these birds, in so far as it has been possible to locate them in the southern states. This exceedingly dangerous warden work is carried on by guards hired during the spring months for the purpose. There is not the slightest doubt but what the Egrets in the South Atlantic States would today be on the very verge of absolute extinction but for the efforts of the Association.

Sometimes money is slow in coming in, and the birds not infrequently have suffered as a result. The Association cannot hire a man and send him into the swamps to guard a colony of birds unless it has money to pay for this service, and there have been a number of instances in recent years when, through lack of funds to employ wardens, colonies of Egrets have been shot for their feathers, and the unattended young left to perish in the nests.

It now appears that a number of colonies will have to be left unguarded the present spring because of lack of funds. In several instances $100 is enough to save a colony through the breeding-season; in other cases $50 is a sufficient amount. If the bird-lovers of the country want this interesting bird spared and brought back in numbers, the Association has the machinery and experience with which to do it.

We hope that these remarks will be read by some members who may at once feel disposed to contribute something to this work.

The following record shows a list of the contributions, for Egret protection efforts, which were received between October 20, 1917, and March 1, 1918.

Contributors to the Egret Fund

Balance unexpended from 1917, as per Annual Report	$870 15
Adams, William C.	1 00
Allen, Miss Gertrude	15 00
Allen, Mary P.	15 00
Ames, Mrs. J. B.	5 00
Ayres, Miss Mary A.	5 00
Barclay, Miss Emily	5 00
Beall, Mrs. I. A.	5 00
Bignell, Mrs. Effie	1 00
Blackwelder, Eliot	1 00
Bond, Miss Mary Louise	1 00
Bonham, Miss Elizabeth S.	5 00

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Bonham, Mrs. Horace	$25 00
Boynton, Mrs. C. H.	1 00
Brent, Mrs. Duncan K.	2 00
Brock, Mrs. Robert C. H.	5 00
Brooks, Mrs. Shepherd	5 00
Brown, D. J.	2 00
Burgess, E. Phillips	3 00
Burt, Miss Edith	2 00
Bush, W. T.	5 00
Busk, Fred T.	5 00
Button, Conyers	10 00
Carse, Miss Harriet	2 00
Clark, Mrs. Louise	2 00
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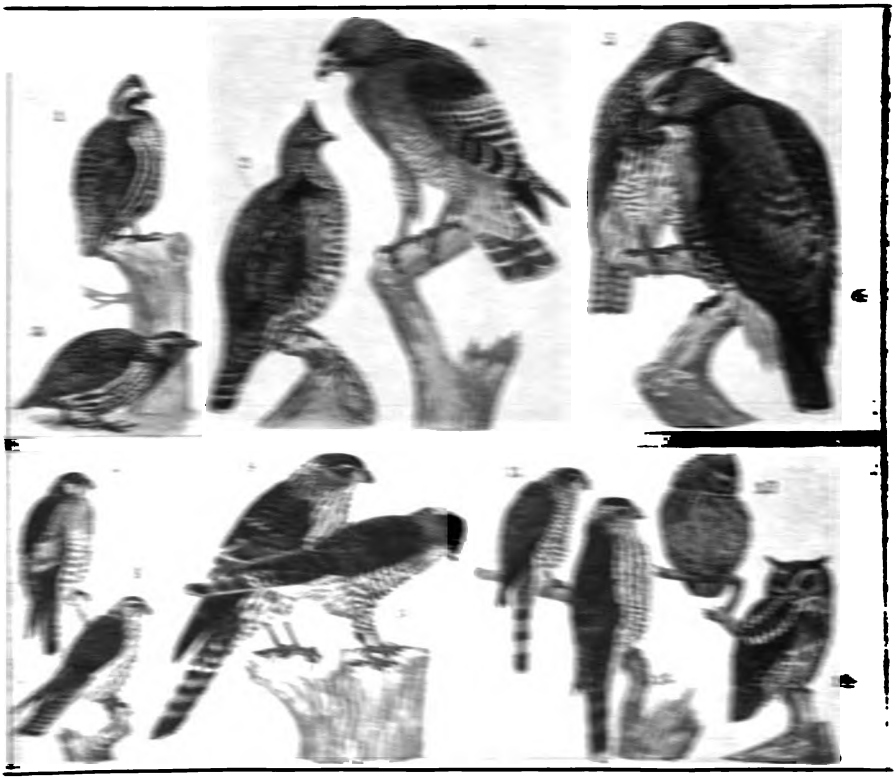

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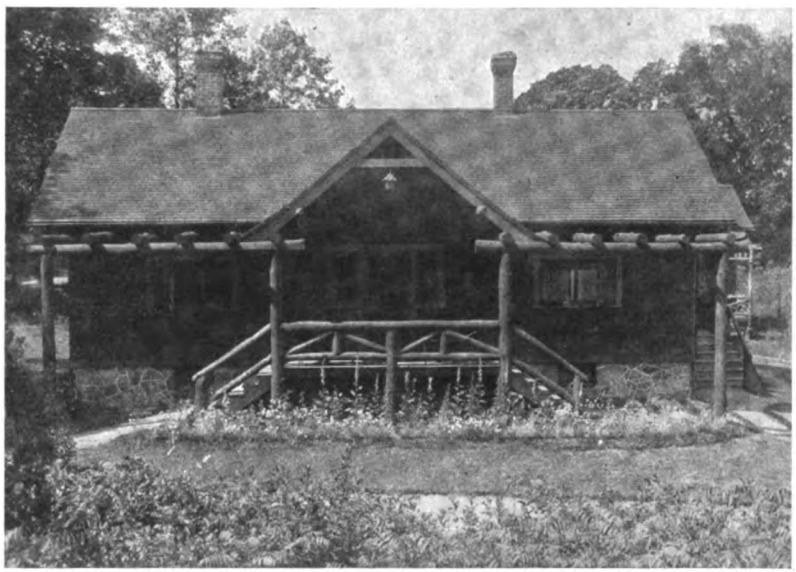

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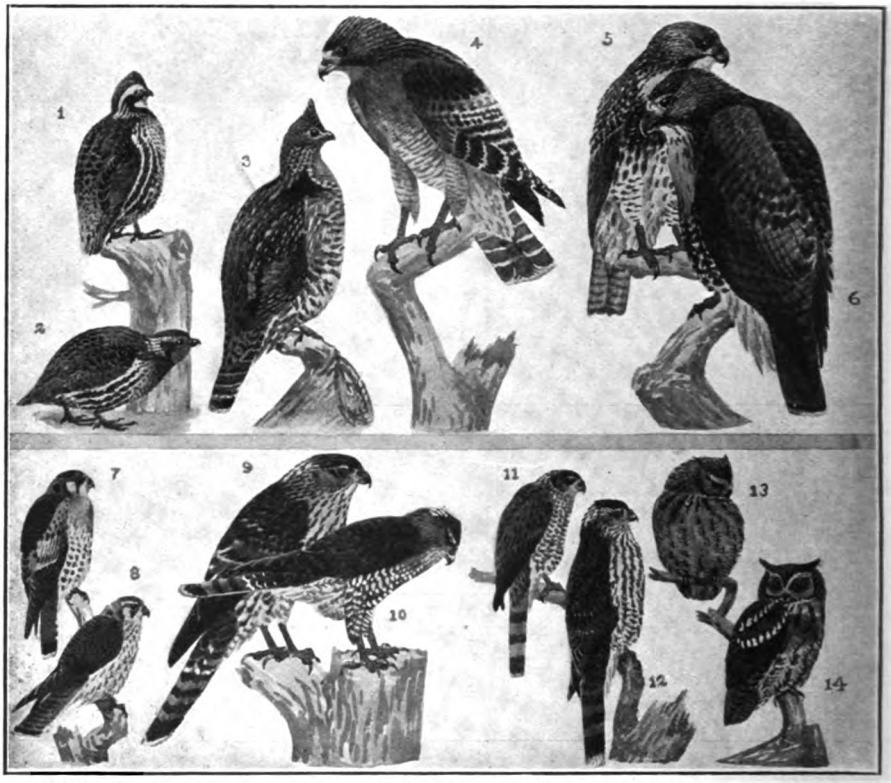

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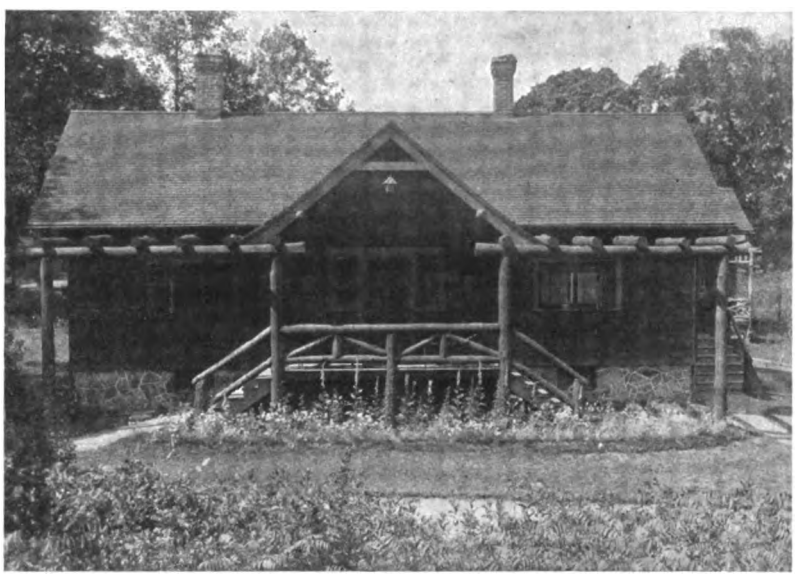

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Bird-Lore

May-June, 1918

CONTENTS

GENERAL ARTICLES PAGE

FRONTISPIECE IN COLOR—PHAINOPEPLA, BOHEMIAN AND CEDAR WAXWINGS..... *Louis Agassiz Fuertes*..

THREE YEARS AFTER. Illus..... *Mabel Osgood Wright*.. 201

A BLAMELESS CAT..... *William Brewster*.. 211

THE LARK. Verse. Illus..... *Edmund J. Sawyer*.. 213

THE WHIP-POOR-WILL. Illus..... *Melicent Eno Humason*.. 214

MY NUTHATCH TENANTS AND A PAIR OF RED-HEADED RUFFIANS..... *R. W. Williams*.. 217

THE MIGRATION OF NORTH AMERICAN BIRDS. IV. THE WAXWINGS AND PHAINOPEPLA.. *Harry C. Oberholser*.. 219

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS. Illus..... *Frank M. Chapman*.. 222

NOTES FROM FIELD AND STUDY..... 224

BOOMING OF THE AMERICAN BITTERN (Illus.), *Geo. W. H. vos Burgh;* SPRING MIGRATION IN THE 'RAMBLE,' *Blanche Samek;* SPARROW HAWK AND STARLING, *H. I. Hartshorne;* YELLOW WARBLER VS. COWBIRD (Illus.), *E. S. Daniels* and *Geo. F. Tatum;* THE EVENING GROSBEAK IN MINNESOTA IN MIDSUMMER, *D. Lange;* PINE SISKINS NEAR EDMONDS, WASH., *Mrs. Eugene D. Lindsay;* HOW WE MADE A BIRD-BATH, *Maud Stanwood;* NOTES FROM LONDON, ONT., *C. G. Watson*, Sec.

THE SEASON. VII. February 15 to April 15, 1918..... 230

Winsor M. Tyler; Charles H. Rogers; Julian K. Potter; Harry C. Oberholser; Lynds Jones; Thomas S. Roberts; W. H. Bergtold.

BOOK NEWS AND REVIEWS..... 235

ARTHUR'S 'BIRDS OF LOUISIANA'; PEARSON'S 'TALES FROM BIRDLAND'; THE ORNITHOLOGICAL MAGAZINES; BOOK NEWS.

EDITORIAL..... 238

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT..... 239

AWAKE TO THE TIMES, *A. H. W.;* JUNIOR AUDUBON WORK; SUGGESTIVE LESSONS IN BIRD-STUDY; THE BLUE JAY, *William Gould Vinal;* FOR AND FROM ADULT AND YOUNG OBSERVERS.

EDUCATIONAL LEAFLET No. 96. SLATE-COLORED JUNCO. With Colored Plate by Bruce Horsfall..... *T. Gilbert Pearson*.. 252

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT..... 259

A SUMMER OUTING FOR BIRD-STUDY; STINKING LAKE, A BIRD SANCTUARY; A BIRD HOSPITAL (Illus.); THE PENNSYLVANIA PLUMAGE LAW; SUMMER SCHOOLS FOR BIRD-STUDY; GAME-LAW ENFORCEMENT IN NEW YORK; FIRST STATE CAT LAW; ANOTHER BIRD SANCTUARY; A NEW BIRD FOUNTAIN; BIRD DAY IN SOUTH CAROLINA; NEW LIFE MEMBERS; CONTRIBUTORS TO THE EGRET FUND.

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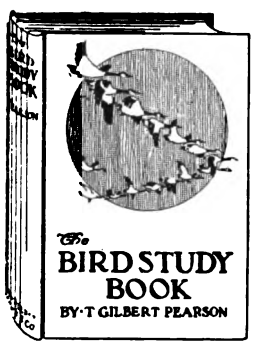

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6. CEDAR WAXWING, Young

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DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
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Vol. XX | MAY—JUNE, 1918 | No. 3

Three Years After*

SOME NOTES ON BIRDCRAFT SANCTUARY, FAIRFIELD, CONN.

By MABEL OSGOOD WRIGHT

THERE are many projects connected with all ethical movements, covering some phases of general nature-study and bird-protection, that are born of waves of enthusiasm and public acclaim and then, lacking both nourishment and practical motive, cease to be.

At the public opening of Birdcraft Sanctuary, over three years ago, enthusiasm there was and much praise for all the details of construction, but certain ultra-practical folk put the question, "Exactly what do you expect to accomplish in these ten acres that may not be compassed in any similar piece of ground, without so much preparation and expense?" Also, "Will not the nearby public in a short time tire of the limited museum exhibit and cease to come?"

To both these queries the answer was "We shall see; time only can prove." Then those three having this side of the work in charge spent a greater part of the first year in following the natural course of events in the Sanctuary, as well as taking note of the people who visited the museum; the various comments upon the work already done being a guide to what should be developed to meet the popular needs, as well as those of bird-protection.

It did not take us long to find that the general public can best be taught to name the birds accurately from seeing them at close range in the museum, for it requires a special aptitude to group markings and color scheme as shown in a flitting wild bird, even when seen through a field-glass.

But when half-a-dozen birds are studied at short range through the picture groups in the cases, the novice has a series for mental comparison out-of-doors.

Straightway we added a second unit to the museum, to carry out in greater detail the seasonal scheme of the first room.

*BIRD-LORE for July-August, 1915, published a paper by Mrs. Wright upon the inception and making of Birdcraft Sanctuary, owned by the Audubon Society of the State of Connecticut.

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OLD ORCHARD FROM THE OVERLOOK
Photographed by Wilbur F. Smith

BIRDCRAFT BUNGALOW, WARDEN'S HOME AND COMMITTEE ROOM OF THE CONNECTICUT AUDUBON SOCIETY
Photographed by Mabel Osgood Wright

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In the second unit there are three large picture groups: (1) One of Ducks and other Shore-birds of the New England coast. (2) A wood scene, with perspective glimpses of hills and meadows, against which are grouped many of the birds of prey and the chief mammals of Connecticut, shown because of the relation of some to the destruction of game-birds, i. e., a gray fox is shown stalking some Quail while the fox cub in its den is nosing the remains of a Ruffed Grouse, etc. (3) A picture group of the Sanctuary itself is used to show all the birds that have either nested therein, rested there during the migrations, or been its winter guests. The value of this group is to show students the scope of bird-life that may be found in the neighborhood, as the

A VISITOR

records kept by the warden place the display upon a scientific basis and eliminate anything like guesswork.

The arrangement of our little museum aims at doing away with the confusion that falls upon the amateur when visiting great collections, for we limit ourselves to birds common to Connecticut, and, in addition to the picture groups, we are developing three "study cases" wherein the birds are shown in pairs, or male, female and immature, and plainly labeled.

Have people tired of the exhibit? No. Those who came at first from mere curiosity, came again with interested friends. Teachers make visits a reward of merit for their Junior Classes, and automobilists leave the post-road to "take in Birdcraft." Our last annual record of visitors was 6,200 people, a small number for a city museum, but very significant for a rural, cottage affair. The use

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of the ground inside the so-called cat-proof fence is confined to accredited adult bird-students admitted by personal card. To carry out the purpose of the place, there must be a degree of quiet that cannot be had in a semi-public resort. Neither is general bird photography allowed; birds can be disturbed and driven from their haunts by rearranging the surroundings of their nests as surely as by shotguns or egg-collectors.

THE THRASHER IN MOLTING TIME
Photographed by Wilbur F. Smith

The record of birds seen in 1917 was as follows: Species seen, 147. Species nesting in Sanctuary, 24—with 102 individual nests, as listed below: Robin, 22; Wrens, 13; Song Sparrow, 13; Field Sparrow, 11; Catbird, 8; Brown Thrashers, 5; American Goldfinches, 2; Cedar Waxwing, 1; Bluebirds, 2; Maryland Yellow-throats, 3; Blue-winged Warbler, 1; Towhee, 3; Great-crested Fly-catcher, 1; Chat, 1; Black-billed Cuckoo, 2; Phoebe, 1; Wood Pewee, 1; Flicker, 4; Rose-breasted Grosbeak, 1; Screech Owl, 1; Red-eyed Vireo, 2; Chimney Swift, 2; Quail, 1 covey of 7.

One-hundred and thirty birds killed by natural causes were brought in by children. Permission having been given us by the State Commission of Fish and Game to retain these birds, they were mounted by the warden, who is a taxidermist, for the museum, and duplicates kept as "skins" for exchange.

THE THRASHER THAT WINTERED
Photographed by Wilbur F. Smith

If this great annual loss of bird-life could be more frequently saved from waste by this method, it would be possible to form small collections for school study without taking the life of a bird.

The individual birds and mammals taken in the Sanctuary are as follows (we have a state permit to destroy any bird that is detrimental to the Sanctuary), during 1917–1918:

English Sparrows, 269; European Starlings, 542. These two species destroy the nests of more useful birds and con-

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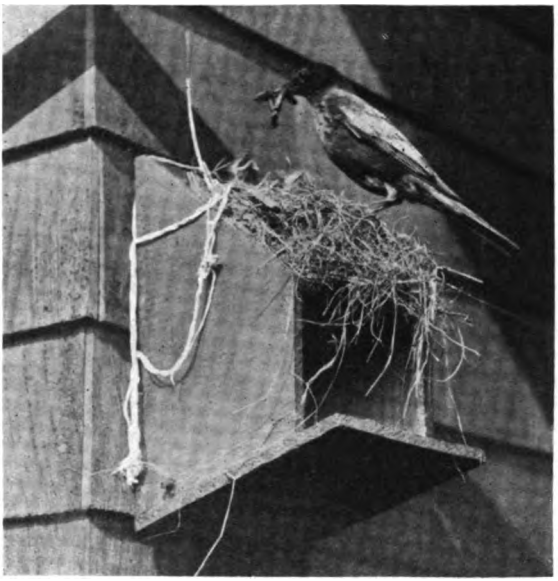
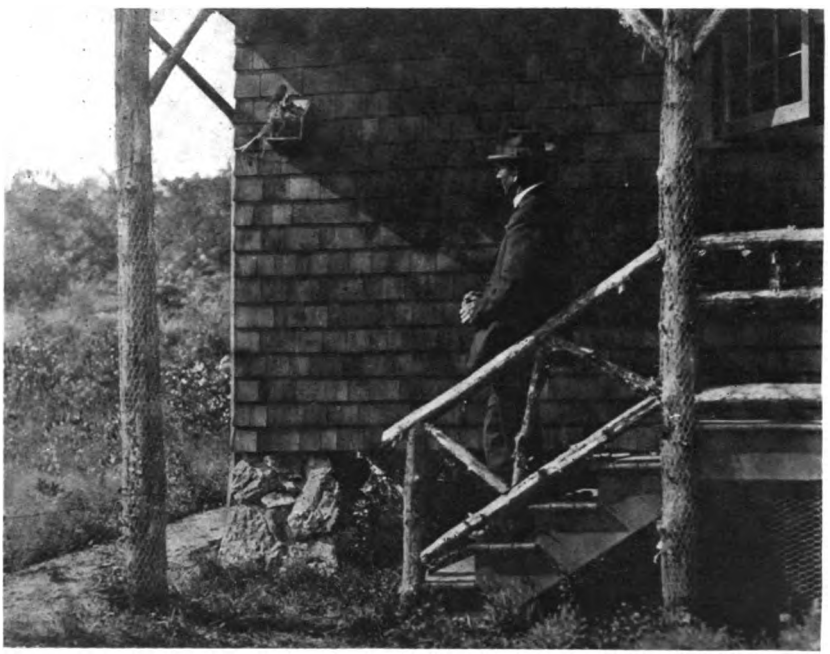


A ROBIN TENANT
Three days after hatching this bird lost his wife and thereafter raised the brood alone
Photographed by Wilbur F. Smith

sume, not only the natural food of native species, but great quantities of the grain, berries, etc., for winter feeding.

Purple Grackles, 28; Crows, 12. These birds break up nests, we find, while the Crow we have proven to be an egg and squab thief to such a degree that, whatever good he may do under other conditions, he is an impossibility in a Sanctuary. We use the old country way of placing poison in hens' eggs, by punching a small hole in one end and stirring in the poison with a straw.



PHOTOGRAPHING A ROBIN TENANT
By Wilbur F. Smith

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Hide the eggs where we will, the Crows always find and eat them, proving equally their menace to poultry-raisers. This method would be unsafe in any but land enclosed like the Sanctuary. We also trapped: Sparrow Hawks, 4; Red-shouldered Hawks, 3; Long-eared Owls, 2; Barred Owls, 1; Screech Owls, 1; Sharp-shinned Hawks, 4; Cooper's Hawks, 3; Northern Shrikes, 14 (26 seen). (All birds of prey are caught in a trap with padded jaws, so that harmless and protected species like the Owls may be liberated unhurt.)

The Red-shouldered Hawks are always set free when caught, as the warden finds them great destroyers of rodents, and has as yet failed to see them harry the birds.

A CHRISTMAS SHEAF FOR THE JUNCOS AND TREE SPARROWS

The Northern Shrikes, next to the Sharp-shinned Hawks, have proved the most ruthless harriers of our winter birds in the Sanctuary. They also gave exhibits of their "butcher bird" habits by impaling victims on the barbs of the fence.

Valuable and precise data on the cat question has been collected during these three years, when 107 cats have been taken in the enclosed grounds of Bird-craft, 24 having worked their way between the barbs and over the top of the "cat-proof" fence! While 50 of these cats might be classed as homeless wanderers, the others were well-fed adult cats in whom the bird-hunting instinct was so dominant that they would take great risks to satisfy it. This type of cat, together with Crows, we are convinced, causes quite as great losses to poultry-raisers as all the Hawks combined.

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It can be easily seen that by feeding and housing more than an average number of birds in a given area, their natural enemies are attracted and increased, so that it is of little avail to create a so-called Sanctuary unless constant protection from a resident warden is supplied.

In addition to general supervision, our warden makes his rounds early in the morning and at twilight, on the lookout for unusual happenings and new arrivals. Predaceous mammals, and the like, must be looked for, and his catch of detrimentals for the past year includes 21 rats, 1 skunk (who helped himself to eggs meant for the Crows), 1 weasel, and 17 striped snakes, we having decided to destroy these because of the harm that we have found that they did in breaking up the nests of Song and Field Sparrows, while the small Owls and Red-shouldered Hawks can be trusted to keep down such rodents as the snakes would destroy.

GREAT-CRESTED FLYCATCHER AND ITS NESTING-BOX
Photographed by Wilbur F. Smith

One lesson can be learned through our experience by those wishing to put up bird-houses—do not place them at random or too near together as if your garden was a salesroom. With a few gregarious exceptions, birds like privacy, and one house should not be within sight of another. Then, too, the houses of simplest construction find the readiest tenants. A long, squared box with the proper opening at top and a few chips and shavings inside will suit a Flicker or Screech Owl as well as the elaborate von Berlepsch construction, proving that American birds, like American people, have no use for German *Kultur*.

We have found a double reason for clearing out bird-boxes during the winter. In half a dozen cases the white-footed or deer mouse has made a soft nest in them, and in one Wren box a family of ten was wintering. This house and contents, carefully mounted, is an object of interest in one of the study cases.

Among the notable birds that have adopted our home-made houses is the Great-crested Flycatcher, who was quite at home in a decayed apple stub with a bark roof.

A natural brush-heap, supplemented from time to time, is particularly

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attractive to the Brown Thrashers, who are fast becoming regular visitors to the feeding-shelf in spite of alleged shyness. A pair of Thrashers made up their mind to winter with us. The female succumbed after Christmas, during the first zero weather, but the male lived on, roosting in some salt hay that packed pipes under the north porch, feeding upon cornbread, meat-scraps, and the like and sunning every day under the shelter of a bank.

On Monday, April 1, he began to sing in a broken fashion, while on the 10th he burst into *full song!* This seems to me an important record, as the

RELEASING A LONG-EARED OWL—A STUDY IN EXPRESSION
Photographed by Mabel Osgood Wright

migrant Thrashers are not due until the last week of April and rarely sing until May 1.

During the winter six Acadian Owls were recorded. One was picked up in a half-frozen state and after being thawed out, was put in a cage and fed with pieces of English Sparrows and Starlings that the warden caught for it. After a time the cage was placed in the cellar, which is light and above freezing temperature. The Owl was let fly about, so that it might keep its wing action until the weather was mild enough to liberate it safely. The cellar had been overrun with meadow mice and white-foots. Suddenly the warden discovered that the little Acadian was catching them as cleverly as the most experienced cat or human mouse-catcher. In a short time the cellar

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WARDEN MOWING A TRAIL THROUGH A THICKET OF PINK STEEPLE BUSH
Photographed by Wilbur F. Smith

was entirely cleaned and when the Owl was set free in March, he had paid well for his board and lodging.

The having of a bird student as warden in Birdcraft makes it a gathering-place for those who have tales to tell of their local experiences, and allows these stories either to be proven by him or *disproved* with authority. This also helps the warden to keep in touch with local bird-life through the specimens brought

THE REDWING'S ISLAND

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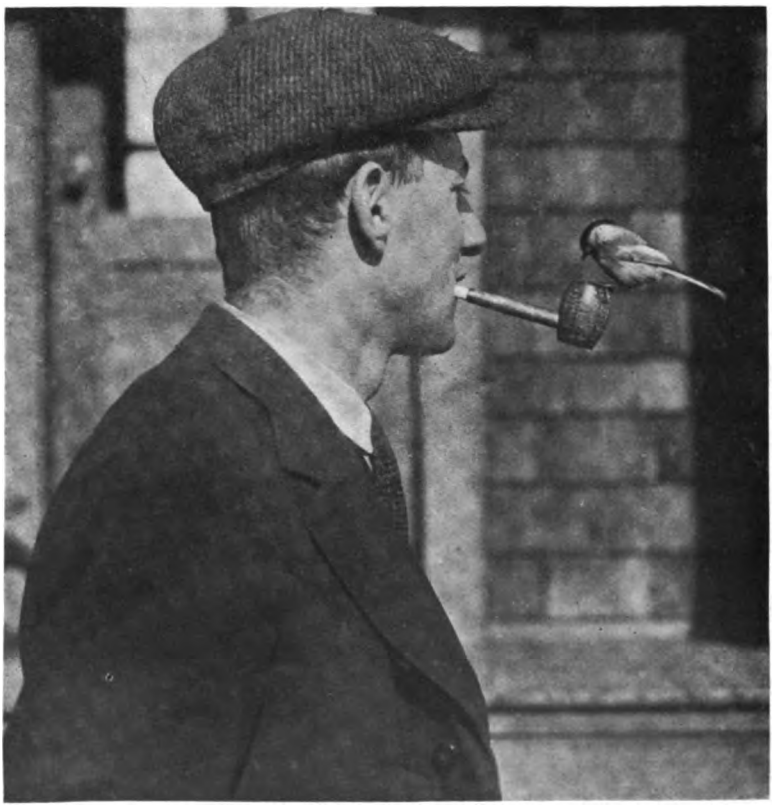
in for mounting and he is able to control, in a measure, illegal shooting by refusing to mount the specimens shot and reporting them to the county warden.

As an instance of establishing a local record—word was brought to him during the January zero weather that from three to five Wilson's Snipe were living in a marsh meadow one-fourth of a mile away. The first impulse was to laugh at the report, but as the boy's story was backed up by others, our warden went to investigate. The Snipe were there and a record established, the secret of the open bit of marsh being the exhaust-steam pipe from a nearby factory which kept open ground for the Snipe through this bitter winter.

First and last, Birdcraft is proving itself a place to answer truly the questions of the bird-lover and student, questions asked both by eye and tongue, and to help its visitors think for themselves. Is not this "making good"?

Little by little native butterflies and moths will appear in the study case and some of the vanishing wild flowers find their natural habitats in the Sanctuary, so that the economic relation between flowers, insects, and birds, may be made plain, but this will be another story. Nature's plan is eternity!



ONE PIPE FOR TWO.—A CHICKADEE SHARES THE WARDEN'S CORN-COB

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A Blameless Cat

By WILLIAM BREWSTER

"*Sans peur et sans reproche*" might be said of her no less appropriately than it was of the illustrious Chevalier Bayard in days of old. What matters it that she catches no mice, since birds are similarly immume from her attack! She sits beside me now, this maltese-and-white pussy, gazing intently at the two dogs lying at my feet, whose eyes are correspondingly fixed on her. Just how and why she came to be so installed—nay even cherished—in a household not overgiven to favoring such a pet may interest BIRD-LORE's readers. It happened thus.

Like many another elsewhere in New England, the grassy dooryard, looked upon from southern windows of our old farmhouse at Concord, Mass., is shaded by large elms and partly enclosed within moss-grown stone walls overrun by poison ivy and fringed with barberry, elder, and other bushes. It has also bordering flower-beds and two pools of water, one deep enough to harbor fish, frogs, and turtles, the other shallow enough for birds to drink and bathe in fearlessly. From it a lane, similarly walled and leaf-screened, leads to woodlands not far away. Thus conditioned and environed, the dooryard does not fail, of course, to attract various birds and other creatures, including some ungiven to venturing equally near human habitations. Chipmunks inhabit it numerously at every season—although not seen in winter, when hibernating underground. They have troubled us increasingly within recent years by digging up and eating the bulbs of crocuses, tulips, and other early-flowering plants. These depredations became so frequent and widespread last spring that we could no longer tolerate them. The chipmunks might easily have been shot or trapped but were not, for their familiar and ever-pleasing presence was even more valued than that of the flowers they destroyed. How to safeguard the latter without losing the former was therefore the problem that must be solved. We first tried small-meshed wire netting, spread out flat over the beds, but it impeded plant-growth, and the squirrels soon learned to burrow under it. Their evident fear of prowling cats, who sometimes justified it by preying on them, was next thought of as something that might be employed to our advantage. For obvious reasons, no living cat was desired about the place, but the stuffed skin of what once had been one would perhaps serve quite as well or better. So the maltese-and-white pussy mentioned in the prelude to this narrative was purchased from the M. Abbott Frazar Company, Boston taxidermists. Admirably mounted, in an attitude characteristic of all her tribe when on the watch for prey, and having glaring yellow eyes, she was so very lifelike that to come on her suddenly amid rank herbage seldom failed to startle members of our household ignorant or forgetful of her presence there. As for the chipmunks, the merest glimpse of her sufficed to fill them with such abiding terror that for days afterward they dared not return to any spot where

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she had been encountered. It might have proved otherwise with them had we not frequently moved her from place to place, always so screening her that she could be viewed from one direction only—a plan equally necessary to adopt in dealing with scarecrows, unless one be willing to have them contemptuously ignored by intelligent Crows, as happens so often in New England cornfields and elsewhere.

Thus managed, our stuffed cat safeguarded the bulbs through that entire spring, yet banished the chipmunks no further than to neighboring stone walls, along which they continued to scamper freely, or to a well-curb still nearer the house, whereon they loved to bask in warm sunlight. Her effect on birds then nesting in or near the dooryard was different and less pleasing. For whenever it became known to them that she was lurking there, Robins, Catbirds, Wrens, Song Sparrows, Orioles, and others asssembled, fluttering as close about her as they dared, uttering cries of alarm or protest which sometimes swelled into clamor so disturbing that we had to remove her from their sight.

After thus accomplishing all that had been desired of her at Concord, the inanimate puss was taken to Cambridge later in the year, and there rendered similar useful service by preventing certain birds from eating fruit which we did not care to let them have. Numerous Starlings, especially coveting that of our Parkman's apple tree, were kept away from it by the cat until at length one of them found opportunity to watch the placing of her in the tree. What he then saw must have been correctly interpreted and also promptly communicated to the other members of the flock, for they soon returned to resume their interrupted feast and thereafter took no apparent notice of the cat. All this transpired within my view. It suggested that Starlings may not only observe, but also *reason*, shrewdly. Doubtless there are many other birds no less gifted with such intelligence.

The foregoing testimony should convince at least some of those who read it that a stuffed cat may be better worth her keep than a living one—especially in times of food scarcity like these. If, during the continuance of her allotted nine lives, such an animal may occasionally have employed a dolorous voice to shatter midnight quiet, or needle-pointed claws to transfix defenceless little birds or beasts, what does it matter now? All such transgression must of necessity date back to a more or less remote past and hence need give no present concern to anyone.

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The Lark

By EDMUND J. SAWYER

He little knew the modest Lark who said,
"*He sings inspired at high heaven's gate.*"
The bird to his own native soil is wed
And sings because enraptured with his mate.

Far more than sky, with sun or starry train,
Green fields, or barren brown, to him are worth.
He seeks no closer view of heav'n to gain;
He soars but for a better view of earth.

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The Whip-poor-will

By MELICENT ENO HUMASON, New Britain, Conn.
With Photographs by Leslie W. Lee

ONE evening, just before dusk, as a friend and I were scrambling over a rocky wooded ledge, after a long day's tramp in the mountains, we were suddenly surprised by a low chuckling *purr*. Gazing through the dim light, at the spot whence came the sound, we saw a dusky shape quietly glide into the trees, with the planing, sidelong swoop of a bat. Stealthily it alighted on a limb almost directly above a hollow of dry chestnut-oak leaves in which lay two white spotted eggs.

So here was the Whip-poor-will, in this lonely deserted place, on this high mountain ridge at the top o' the world, with apparently no neighbors to intrude.

We departed from the site as quickly and noiselessly as possible, leaving her to return in peace; then we rested on a lichen-mottled rock about 50 feet away.

It was truly dusk now. The lights in the little cottages of the valley below glittered with friendly eyes; a wagon rattled down the stony road on its homeward journey; a dog howled long at some imaginary foe in the thicket; a Scarlet Tanager uttered his deep *chip-chur-r-r;* the Wood Thrushes tinkled their evening bells; and then, close at hand, a full-throated *whip-poor-will, whip-poor-will*, many times repeated (once we counted 267 calls, without a second's intermission), betokened felicity and happy companionship on the ledge.

Early the next morning we climbed the stony path, bordered by maple-leaved viburnum and dogwood, to the abode of our newly discovered residents.

Instead of going directly to the nest of the Whip-poor-will, we made a wide detour around her, approaching her from the rear, over a large rock, which bore convenient depressions in the shape of steps.

Long grass grew in the crevices of our excellent staircase, and shiny-berried Solomon's seal stretched yearningly toward the light.

Climbing, then descending this rock, we mounted another, from the farther end of which we surveyed the scene—brilliant now in the morning light—of the night before.

Three trees formed the background and wings, namely, the yellow oak, the chestnut oak, and the pignut hickory. We glanced into the 'spotlight' formed by the flickering sun. There were no eggs to be seen!

Using our glasses, what had at first appeared to be the end of the rotten limb now shaped itself into a brooding bird. Soon we clearly defined the whiskers, the shut eyes, the sagging mouth. Caught in its sleep, I declare! At the snap of a twig the 'limb' took wings, and, repeating the sound of the night before, fluttered, almost stupidly, to a branch only a few feet away from the eggs. There, the Whip-poor-will stolidly blinked at us and seemed not afraid.

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My companion quickly descended the rock toward the eggs, set up his 5 x 7 camera on a tripod, took a picture of the eggs—I cannot say nest, then draped the camera with sassafras leaves, set it, and came away, carrying with him the bulb, attached to tubing 25 feet long. Then we crouched behind the stair-case and awaited proceedings.

Would the Whip-poor-will venture down from her perch, we wondered, with that fierce machine staring at her, 26 inches from her brooding-place?

WHIP-POOR-WILL BROODING

Though we tried to conceal ourselves behind the rock, her eye was upon us, and though she did not fly to safer distance, neither did she budge an inch from her location.

We dropped the bulb where we were so insufficiently concealing (?) ourselves, and strolled to the ledge where we had lingered the previous evening. Immediately we were settled, in recumbent and apparently unconcerned positions, the Whip-poor-will flew back to her nest.

Fully twenty minutes after her interruption, my companion stealthily stole up the 'back stairs' again, bulb in hand, and peering, with glasses, over the edge, spotted her and snapped. Once, twice, the click resounded—I could

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hear it where I was so anxiously awaiting—but the Whip-poor-will did not quiver a whisker.

For sixteen days after our discovery of the eggs, we tramped up that rocky path to our destination, the home of the Whip-poor-will, a three-mile walk each way. By this time we were exceedingly fond of her; in fact, contrary to our general custom, we had killed a six-foot blacksnake which was stealthily crawling upon her unawares, and we awaited the advent of her babies with much solicitation and joy.

The sixteenth day, the Whip-poor-will whirred up, and there, in the depression of the chestnut-oak leaves, were two little Whip-poor-will babies.

WHIP-POOR-WILL TWINS

Their beaks and heads were plentifully besprinkled with egg-shells, little particles of which were quite imbedded in their fur. Perhaps one will dispute the possibility of Whip-poor-wills bearing fur, but I can at least assure you that these infants bore no resemblance to the young of most birds. Instead of being pink, with only wisps of feathers protruding from their skin, they were completely covered with a nice soft down, which might be likened to that of a chick. Fragments of shell were scattered on the leaves about them.

After taking a picture of the youngsters, while the mother fluttered wildly about us, cackling in guttural notes, we hurriedly left the trio.

The next day we revisited the site and found that the young Whip-poor-wills were beginning to look like their mother, especially around the beak, and that

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they were rather inclined to crawl out of their shallow home. A day later we again walked three miles to pay our respects to the Whip-poor-will family, but no trace of it remained save a few white chips of egg-shells and two stray feathers from the faithful bird who had reared so tenderly her 'babes in the woods.' Doubtless she had carried them to a safer retreat in the forest depths beyond.

My Nuthatch Tenants and a Pair of Red-Headed Ruffians

By R. W. WILLIAMS

TAKOMA PARK is a town of approximately 3,000 population, partly in the District of Columbia and partly in Maryland. The boundary of my front yard is the line between the District and Maryland, my home being wholly within the state. The yard is 100 feet wide and about 175 feet long. A small stream flows through a part of the premises in the rear. Neighbors, whose places are about the area of my own, have a goodly supply of shade trees, largely oaks. I have ten oaks in the yard, the majority standing in a cluster to the east of the house. In the winter I feed the birds, and during that season am the host to Jays, White-throated and Song Sparrows, Juncos, Cardinals, Downy Woodpeckers, Tufted Titmice, Carolina Chickadees, White-breasted Nuthatches, and, occasionally, a Purple Grackle. One morning in the latter part of last February, I saw at the same time six male Cardinals sitting in a small tree in the back yard. At the time of the events about to be narrated, a pair of Flickers were contentedly housed, and raised their brood, in a box on one of the oaks in the cluster.

In March last I made a bird-box out of four light boards about 15 inches long and 6 inches wide, with projecting top and inserted bottom. The three exposed sides and top I covered with bark. A hole about 1½ inches in diameter was bored rather close up under the projecting top. Sometime in the latter part of the month I nailed this box about 25 feet up on the south side of the main trunk of one of the oaks in the cluster. During the last days of the month a pair of White-breasted Nuthatches were frequently seen on and around the box, and by the end of the first week in April I was most agreeably surprised to find that they had settled themselves there for the season.

Their antics were comical. I frequently observed one or the other of them on top of the box or on a nearby limb, swinging its body from side to side for several minutes at a time, until I wondered if it possibly could escape dizziness. But they seemed never to tire of this performance and certainly were physically none the worse for it.

At first they were fairly noisy, but after a while, I suppose when incubation began, they became, and until the young were hatched they continued to be, quiet. Fearing that so unusual a tenant might desert the box if disturbed, I

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was never able definitely to determine when the eggs were deposited, or, for that matter, much of anything that transpired within the box. They had not long hatched the young, however, before I discovered that fact by observing the parents carrying food to them.

Bright and happy days for the birds, old and young, ensued, until one morning before breakfast (May 9) two Red-headed Woodpeckers arrived on the scene and inspected the box. I did not attach much significance to this and contented myself, before leaving for my office, with frightening them away by vigorous gesticulations and by small sticks thrown at them. These methods seemed to suffice for the time. Later in the day, however, I received a message that the Woodpeckers were enlarging the entrance and possessing the box, throwing out the young Nuthatches—three having already been cast to the ground—and altogether evicting the parents, which, grief-stricken, were looking on from nearby stations. The red-headed ruffians were at the box when I reached home that afternoon but they disappeared at my approach. I procured my gun and took a position from which I would be sure to reach them if they returned. I had not long to wait. One of them alighted at the entrance of the box. I fired and the bird fell to the ground directly under the box. Both of the Nuthatches flew to the base of the tree and, clinging there within a foot of the ground, regarded the Woodpecker for more than a minute, with exhibitions of keen satisfaction and exultation.

I found another of the young Nuthatches dead a few feet away from the tree. None of the young birds was mutilated to any extent, from which circumstance it seems probable that the Woodpeckers were not in quest of food, but distinctly bent on mischief.

The following morning another Red-head appeared, and I promptly dispatched him. But, alas, the home of the Nuthatches had been desolated, and, while for a day or two they would sit upon the box for a few minutes and occasionally look in the entrance, they never went in, and finally abandoned the place. I shortly removed the box as the sight of it kept alive in me distressing recollections of this pathetic incident.

As I write this, some months afterward, I can add that, although the Nuthatches abandoned the box and its immediate vicinity, they remained in the neighborhood thereafter and are still here, occasionally feeding on the sunflowers in my garden. Provision will be made for them during the coming winter, and a box will be erected for them in the spring. Red-headed Woodpeckers, beware!*

*In justice to Red-headed Woodpeckers as a race, I should say that by no means are they all so demoniacal as those above mentioned. There are good and bad in all races, avian or human, and the race should not be condemned for the misdeeds of some individuals.

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The Migration of North American Birds

SECOND SERIES

IV. THE WAXWINGS AND PHAINOPEPLA

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

(See Frontispiece)

BOHEMIAN WAXWING

The North American breeding-range of this boreal bird (*Bombycilla garrula*) extends north to northern Mackenzie and northern Alaska; west to western Alaska and western British Columbia; south to Washington and Montana; and east to northeastern Manitoba. It winters east to Nova Scotia, and south, though irregularly, to Connecticut, Pennsylvania, Ohio, Indiana, southern Illinois, Kansas, Colorado, and southern California. It is of casual occurrence in Arizona.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Banff, Alta.	4	April 7	March 21, 1914
Fort Simpson, Mack.			April 25, 1860
Fort Anderson, Mack.	2	May 18	May 10, 1863
Dawson, Yukon.			May 24, 1899

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Shelter Island, N. Y.			May 12, 1887
Geneva, N. Y.	2	April 20	April 27, 1916
Bennington, Vt.	4	April 13	April 25, 1915
Scotch Lake, N. B.			April 28, 1905
Montreal, Quebec.			April 27, 1857
Youngstown, Ohio.			May 14, 1908
New Bremen, Ohio.			January 22, 1910
Chicago, Ill.	3	February 28	April 18, 1911
Ann Arbor, Mich.			March 10, 1888
Ottawa, Ont.	2	March 18	March 30, 1897
Sioux City, Iowa.	3	March 20	April 1, 1912
La Crosse, Wis.	5	March 18	April 5, 1905
Minneapolis, Minn.	6	April 1	April 25, 1876
Lincoln, Neb.			March 6, 1911
Faulkton, S. D.			March 17, 1917
Margaret, Man.	3	March 22	April 10, 1909
Boulder, Colo.	3	April 1	April 14, 1917
Gilmer, Wyo.			March 7, 1870
Terry, Mont.	4	March 20	March 31, 1904
Galt, Calif.			March 14, 1911
Camp Harney, Ore.			March 1, 1876
Walla Walla, Wash.			March 3, 1881
Okanagan Landing, B. C.	3	February 28	March 22, 1907

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FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Moose Camp, Kenai Peninsula, Alaska			October 8, 1903
Bethel, Alaska			August 8, 1914

LOCALITY	Number of years' record	Average date of first one observed	Earliest date of first one observed
Geneva, N. Y.			January 9, 1913
Dighton, Mass.			December 26, 1885
Lynn, Mass.			February 18, 1877
New Haven, Conn.			February 11, 1875
Ottawa, Ont.	4	January 3	November 11, 1883
Ann Arbor, Mich.			December 12, 1869
New Bremen, Ohio			January 1, 1910
Chicago, Ill.	3	December 6	November 22, 1906
La Crosse, Wis.	4	January 21	December 22, 1909
Superior, Wis.			September 20, 1902
Minneapolis, Minn.	3	December 14	October 9, 1888
Sioux City, Iowa	3	February 7	January 21, 1912
Ames, Iowa			November 21, 1879
Aweme, Man.	8	November 3	October 20, 1903
Lincoln, Neb.	2	November 17	November 8, 1910
Halsey, Neb.			October 27, 1906
Manhattan, Kans.			December 6, 1879
Big Sandy, Mont.	5	November 6	October 23, 1906
Terry, Mont.	9	December 15	October 25, 1895
Fort Bridger, Wyo.			December 8, 1857
Boulder, Colo.			November 6, 1910
Fort Mojave, Ariz.			January 10, 1871
Okanagan Landing, B. C.	5	November 7	October 18, 1905
Walla Walla, Wash.			November 19, 1881
Camp Harney, Ore.			November 23, 1875
Daggett, Calif.			December 13, 1910

CEDAR WAXWING

The Cedar Waxwing (*Bombycilla cedrorum*) breeds north to northern Nova Scotia, northwestern Quebec, northern Ontario, central Manitoba, central Alberta, and central British Columbia; and south to southern Oregon, Arizona, northern New Mexico, Kansas, northern Arkansas, and western North Carolina. It winters in most of the United States, and south to Mexico, Cuba, and Panama. It is of accidental or casual occurrence in Jamaica, the Bahama Islands, the Bermuda Islands, and England. It breeds late in the spring, and in many localities is of very irregular occurrence; hence its migratory movements are somewhat unsatisfactory to trace.

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SPRING MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Orlando, Fla.	2	May 9	May 15, 1911
Tallahassee, Fla.	3	April 27	May 8, 1903
Savannah, Ga.	6	May 5	May 14, 1915
Charleston, S. C.	3	May 18	June 3, 1910
Autaugaville, Ala.			May 25, 1914
Biloxi, Miss.	3	May 5	May 26, 1910
New Orleans, La.	6	May 9	May 19, 1900
Helena, Ark.	5	May 11	May 23, 1904
Brownsville, Tex.			May 24, 1912
San Antonio, Tex.	6	May 6	May 25, 1885
Kerrville, Tex.	5	May 15	May 23, 1911
Bonham, Tex.	5	May 17	June 3, 1887
Huachuca Mts., Ariz.			May 6, 1902
Los Angeles, Calif.	3	May 22	May 24, 1908

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Bennington, Vt.	12	May 12	March 29, 1911
Wells River, Vt.	10	May 20	April 17, 1905
St. Johnsbury, Vt.	24	April 23	February 10, 1915
Durham, N. H.	3	May 8	April 10, 1898
Tilton, N. H.	5	April 15	March 9, 1915
Portland, Maine	13	April 24	February 6, 1889
Phillips, Maine	11	May 24	April 10, 1905
Scotch Lake, N. B.	17	June 2	May 9, 1889
Halifax, N. S.	3	May 30	March 25, 1890
Pictou, N. S.	4	June 2	May 23, 1889
Charlottetown, P. E. I.			June 21, 1900
Montreal, Quebec	5	April 1	March 29, 1889
			January 25, 1892
Quebec, Quebec	16	May 29	April 15, 1899
Aweme, Man.	17	May 28	May 21, 1901
Terry, Mont.	4	June 3	May 31, 1906
Indian Head, Sask.	8	May 30	May 27, 1903
Sandy Creek, Alta.			May 14, 1903
Carvel, Alta.	5	April 30	April 5, 1909
Okanagan Landing, B. C.	9	June 1	May 26, 1906

FALL MIGRATION

LOCALITY	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Charleston, S. C.	2	October 13	October 12, 1908
Kirkwood, Ga.	3	October 20	October 18, 1898
Savannah, Ga.			September 18, 1910
Tallahassee, Fla.			October 19, 1901
Montgomery, Ala.			October 20, 1913
Autaugaville, Ala.	2	November 7	October 26, 1913
Helena, Ark.			November 13, 1896
Bay St. Louis, Miss.	3	October 19	October 13, 1898
Gainesville, Tex.			November 17, 1885
Austin, Tex.	3	November 6	October 25, 1893
Thirty miles south of Fort Apache, Ariz.			September 11, 1873
Los Angeles, Calif.	4	September 17	August 26, 1907

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FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Montreal, Quebec	6	September 19	October 25, 1908
Charlottetown, P. E. I.			October 22, 1901
Halifax, N. S.			September 10, 1902
Scotch Lake, N. B.	6	September 25	October 10, 1902
Ellsworth, Maine			October 3, 1912
Phillips, Maine	5	September 21	September 25, 1909
Portland, Maine	7	October 2	October 21, 1914
Tilton, N. H.	3	October 4	October 10, 1906
Durham, N. H.	3	October 7	October 20, 1900
Wells River, Vt.	3	September 20	October 1, 1914
Aweme, Man.	16	September 20	October 8, 1907
Athabaska Landing, Alta.			September 11, 1903
Okanagan Landing, B. C.	5	September 5	September 15, 1913
Missoula, Mont.			October 13, 1916
Bozeman, Mont.	5	September 16	September 29, 1912

PHAINOPEPLA

The Phainopepla (*Phainopepla nitens*) breeds north to central western Texas, New Mexico, southern Utah, southern Nevada, and central California (casually to central Nevada and northern California); and south to the Mexican States of Mexico (Valley of Mexico), Puebla, and Vera Cruz. It winters locally from central California and southern Arizona south at least to the southern limit of its breeding range.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Tucson, Ariz.	4	March 24	February 5, 1916
Tule Wells, Yuma Co., Ariz.			February 12, 1894
Tombstone, Ariz.			January 14, 1912*
Santa Barbara, Calif.	3	April 24	April 7, 1910
Fresno, Calif.	3	April 13	March 26, 1906

*Probably wintering.

Notes on the Plumage of North American Birds

FORTY-EIGHTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Phainopepla (*Phainopepla nitens*, Figs. 1, 2).—On leaving the nest, the male, as well as the female, Phainopepla bears a general resemblance to the adult female, but is browner with duller and narrower margins to the wing-feathers. The postjuvenal molt is apparently usually complete, the primary coverts being sometimes retained, and the male now acquires a black plumage which, however, differs from that of the adult in having the body feathers,

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especially below, margined with grayish, the wing-coverts and inner quills with white.

With the advance of the season these markings disappear, and by the following summer young and old are essentially alike.

Bohemian Waxwing (*Bombycilla garrula*, Figs. 3, 4).—In general appearance the nestling of this species differs from the adult much as the young of the Cedar Waxwing does. In the single specimen seen (Biological Survey, No. 165, 808, Yukon River, July 29, 1899. W. H. Osgood) the wings have red tips and in their yellow-and-white markings resemble those of the average adult. It is evident that this is not always the case, since some specimens, in what is otherwise adult plumage, are without either red tips or yellow markings on the wing-quills.

According to Dwight, the postjuvenal molt "involves the body plumage and wing-coverts, but not the remiges or rectrices."

The well-developed plumage of the nestling above mentioned indicates that the first winter dress cannot certainly be distinguished from that of the adult, and also that the character of the wing-markings is individual rather than due to age. It is shown at its full development in Fig. 3, but specimens having only narrow white tips on the wing feathers, as in Fig. 4, are not infrequent.

There is no spring molt and, as with the Cedar Waxwing, the slight difference between winter and summer plumage is due to wear and fading.

In addition to its larger size, the Bohemian Waxwing differs from the Cedar Waxwing in its generally grayer underparts, the abdomen being like the lower breast and not yellow; chestnut under tail-coverts, white wing-markings and, usually, blacker throat; all differences sufficiently pronounced to be observable in life.

Cedar Waxwing (*Bombycilla cedrorum*, Figs. 5, 6).—The sexes of this beautiful bird are alike in plumage, but the young, on leaving the nest, have a smaller crest and wear a dress easily distinguishable from that of their parents. As Fuertes' drawing shows (Fig. 6), this nestling or juvenal plumage, is decidedly streaked with whitish. The streaks are more pronounced below than on the back, the abdomen is whitish instead of yellow, and there is less black about the bill than in the adult. As a rule the secondaries are without the 'wax' tips, but rarely traces of them appear.

At the postjuvenal or fall molt, all but the tail and main wing-feathers of this plumage are shed and the winter plumage is acquired. This is similar to that of the adult, but it is probable that the size and number of the 'wax' wing-tips increase with age, while the occasional presence of these appendages on the tail-feathers possibly indicates advanced age, though it may be due to exceptional vigor of the individual possessing them.

There is no spring molt, and the slight differences between winter and summer plumage are due to wear and fading.

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Notes from Field and Study

Booming of the American Bittern

With pen sketches by the author

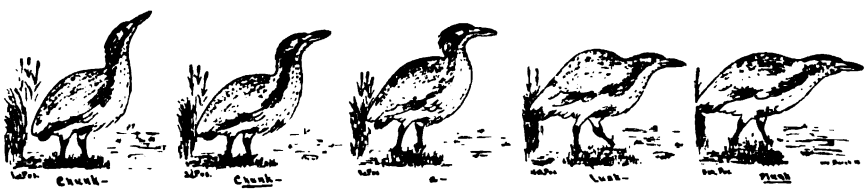
I have read several accounts of the booming of the Bittern, which I have had the pleasure of witnessing three different times, but none of them were accompanied by satisfactory illustrations. As I have heard the notes, they sound like *chunk-chunk-a-lunk-plunk*, and at a distance very closely resemble the noise produced by driving a large wooden stake in marshy ground with a large iron mall.

At the first note—*chunk*—the bird stands erect, with the bill pointed well up. After delivering it, the body seems to echo the effort, with a slight jar. With *chunk*, the second note, the bill is dropped slightly and a little force added, and the note echoed, as it were, in the body a little harder. At *a*— the third note—the bill is dropped down a little more, the head drawn slightly back, the whole body thrown very slightly forward, and after the delivery, echoed as before with a most noticeable jar of the body. *Lunk*, the fourth note, is delivered with about the same force as the last, but with the bill down about level, and head and whole body thrown a little more forward, echoed as before by the jar of the body, which by this time becomes quite violent, accompanied by a very slight ruffling of the plumage. *Plunk*, the fifth and last note on the bar is delivered with considerably more force, and with the whole body, especially the bill and head, thrown, or jerked, violently forward, apparently as far as the bird can reach. The echoing of the note in the body is very pronounced, with a return immediately to the first position to repeat the whole series again, and not only the second time, but, in one case (May, 1917), six times. As a rule, I think, it is repeated only four times.

I had discovered a slough in the northeastern part of Illinois, where I started a Bittern early in April, so I kept watch on the place, and one day, as if in answer to a mental wish, the bird stepped out in plain view and good light, and gave me a real entertainment; in fact, acted as if trying to outdo himself for my especial benefit. After each act he would seem to rest, at least wait two or three minutes, and then give me the next act, and so on until I tired of watching—if that could be. —Geo. W. H. vos Burgh, *Columbus, Wis.*

Spring Migration in the 'Ramble,' Central Park, New York City

Writing of one of his boyhood friends, Henry James says, in 'A Small Boy and Others,' "He opened vistas, and I count ever as precious anyone, everyone, who betimes does that for the small straining vision." In my own case I always remember gratefully as one who "opened vistas" a frail young woman in a raincoat whom I saw one very stormy day in the spring of 1917 in the bird section of the American Museum of Natural History in New York City. We were both looking at birds' nests, and being the only two persons



BOOMING OF THE BITTERN
This series of five positions is repeated six times
Drawn by Geo. W. H. vos Burgh

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in that part of the building, we began quite naturally to talk. I remember that I was bewailing my fate because, after having spent six very delightful weeks on a farm in the Berkshires—from the middle of March to the end of April—here I was obliged to return to my home in the city just at the time when Spring was offering her most interesting treasures to a lover of flowers and birds.

"When you have tramped the fields and woods in April," I went on, "when you have hunted down the first hepaticas, trailing arbutus, violets, bloodroot, saxifrage, and wake robin—when you have heard the Song Sparrow's cheery outburst and the Red-winged Blackbird's vibrant note of spring—when you've seen the early Bluebirds perching on the dusky red berry-cones of the sumach, the ground all white with newly fallen snow, the electric blue of the birds making stunning contrast to the red berries against a white background—then you'll admit that it's not easy to extract much comfort from looking at dry-as-dust stuffed specimens in a museum."

She laughed sympathetically and said, "Why don't you try the 'Ramble' in Central Park for birds? I can't promise you any trailing arbutus, but you will find large numbers of birds migrating through in spring and fall."

The next morning found me in Central Park bright and early, and every morning thereafter for the month of May. Of course, I missed some of the earliest migrants, but in spite of my late start, I was able to get a list of more than seventy species of birds, one of them being that rare creature, the Mourning Warbler. The record for a single day's observation, so far as I know, was forty-five species, and the season record for the largest total observed was ninety-one by Dr. M. P. Denton.

Not the least interesting part of the daily excursion was the opportunity of meeting other bird-lovers who had discovered the 'Ramble.' The mere fact that you carried a pair of bird-glasses was introduction enough for these enthusiasts, and they unhesitatingly stopped you to exchange notes about their latest find and yours. There was the Clergyman from New Jersey who came two or three times a week and insisted that the country was not nearly so good for birds as the 'Ramble.' There was the Famous Surgeon who stole away from anxious patients for an hour almost every day to refresh his own weary soul. There was the Biologist who "loved every bit of life," as she put it, and never missed a chance to study it. There was the Boarding-house Lady who came each morning after her marketing to forget her material cares by quoting Dr. van Dyke's "The Woodnotes of the Veery" and by hunting for that elusive bird. There was the Naval Reserve Man who had left Yale to enlist, who came every morning for the week that he was on leave and "hoped his boat would be ordered where there would be interesting birds to watch." There was the Park Policeman who was the first to see the Black-billed Cuckoo (on whose pronunciation we could not agree). There was the Park Gardener who never forgot to show newcomers the roost of the Black-crowned Night Heron. And, oh, there were lots of others of us, but you must come and see for yourself. And among us all was the keenest good-natured rivalry as to who should be the first to see the new arrivals from the South; and woe betide you, a newcomer, if you had seen some species which an old hand at the game had missed, or if you claimed to have seen a bird some days before it was due. So, if you would have new vistas open before you, if you want one of the best things of spring, even if you are city-bound, you have only to go to the 'Ramble' and join the bird colony.—BLANCHE SAMEK, *New York City*.

Sparrow Hawk and Starling

On March 26, 1918, back of the American Museum of Natural History, New York City, a Sparrow Hawk was seen, with an adult Starling for its victim.

When first observed, the two birds were on the ground, the Hawk on top of the

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Starling, and showing every evidence of a good grip. The Starling seemed fairly exhausted but jerked around spasmodically every time the Hawk made a move, which was sometimes merely to change its position, but more often to nip the side of the Starling under its wing. The Hawk's wings were continually spread so as to prevent the Starling from overturning him.

The above actions were continued for about five minutes, when the Hawk was frightened away by a move of the observers and, although he stayed in the vicinity of the Museum awhile, his courage was not equal to his fear of disturbance, and he did not return for his supper as long as the Starling was being observed.

The Starling, in the meantime, apparently recovered somewhat and flew to a nearby window-ledge. Its flight, although weak, was straight, so it was obvious that no flight-bones were broken, and when the bird was viewed at a distance of about three feet, no injury could be seen. If there was one it was well concealed by feathers.—H. I. HARTSHORN, *Newark, N. J.*

Yellow Warbler vs. Cowbird

A Yellow Warbler's nest containing two eggs of the Cowbird was found by the writers in the Missouri Botanical Garden, St. Louis, in May, 1917. It was an unusual one for this species to build, in that a quantity of newspaper was used in its construction. The nest was also not as compact as is usually built by this species, being very loosely constructed, and as we watched it from time to time, we were fearful that the nest would fall apart before the young were old enough to leave it. When first noted it was of normal size and contained one Cowbird egg, which in a few days was covered by a small piece of paper. The second foreign egg was laid at a slightly higher level. Then the Warblers began to work in earnest, rapidly building a thick false bottom to the nest and raising

COWBIRD'S EGGS BURIED IN THE 'CELLAR' OF A YELLOW WARBLER'S NEST
Photographed by E. S. Daniels

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the walls. The female bird laid four eggs and brought off a brood of three Warblers, one of the eggs evidently being infertile. The accompanying photograph shows the size and construction of the nest, which has been opened sufficiently to show both of the unhatched Cowbird eggs.—E. S. DANIELS and GEO. F. TATUM, *St. Louis, Mo.*

The Evening Grosbeak in Minnesota in Midsummer

Last summer, during the months of June and July, Mrs. Lange and I occupied a forester's cabin within a quarter of a mile of the international boundary line between Minnesota and Ontario. Our cabin was located on the rocky shore of North Lake, which is one of a chain of deep, cold lakes running east and west in a general direction, and including Gunflint Lake, Little Gunflint, North Lake, and South Lake.

On July 15, 1917, we saw a male Evening Grosbeak in full breeding plumage at the east end of Gunflint Lake. The bird, when first seen, was sitting on a bare patch of gravel in front of a settler's cabin. After he had been picking gravel or small insects for a very short time, he flew to the roof of a nearby house, remained there a few minutes, and then flew away into the timber on the Minnesota side. The bird, when first seen, was sitting only a few yards south of the Canadian line, but flew into the mixed timber on the Minnesota side. Mrs. Lange and myself stood within 20 feet of the bird, which displayed his plumage in the open all the time that we observed him. A week later, on Sunday, July 22, we went to the place, thinking that we might see the bird again, and that we might possibly find the nest. We spent several hours looking through the young growth of spruce, balsam, and poplar, but we saw no signs of the Evening Grosbeak.

Two settlers who live near the east end of Gunflint Lake, one on the Minnesota side, and one on the Ontario side, told me that they had seen these birds there for several years. Although we moved around on these lakes quite a little and saw many northern Warblers and an abundance of Hermit Thrushes, this was the only specimen of the Evening Grosbeak that we observed.

I am not sure whether this is the first notice of the Evening Grosbeak in Minnesota during the summertime, or whether the bird has been found before along the international boundary. The place where the bird was seen was about 30 miles north of Lake Superior. It seems likely that the Evening Grosbeak nests very sparingly along the international border in northeastern Minnesota.

The timber in this region consists principally of spruce, balsam, birch, and poplar. There are some open spots where fire went through some years ago, but a large portion of the region still contains the original growth of timber, except that the scattered pine has been logged out.—D. LANGE, *St. Paul, Minn.*

Pine Siskins near Edmonds, Wash.

The Canadian observer who reported Pine Siskins from British Columbia in the November-December, 1917, BIRD-LORE prompts me to send in my observations of this bird.

Each winter, for three years, I have seen near Edmonds, Wash., large flocks of Siskins, but I did not know that their appearance was unusual. On November 4, 1916, I noted a flock of about three hundred, and from that date on until March 24, 1917, they came to our fruit-farm early and late, day after day.

Possibly one reason why I observed large numbers of them so often is the presence of fifteen alder trees in a ravine just south of our house. In the Middle West I have been accustomed to think of the alder as a good-sized bush, but here alder trees are larger than the average cottonwood or birch of the East. Our alders are from 50 to 60 feet high, and some more than 18 inches through. Their spreading tops, loaded with fruit catkins, offer a tempting breakfast to hundreds of the little twitterers.

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When I am outdoors caring for the chickens, I always know when the Pine Siskins are coming, for way off to the northward I hear a whir-r-r and a swish, and then the chattering and murmuring of the rover band as they whirl over the tall house and settle in the alder tops. We come and go from the kitchen or pass along the path beside the alders but nothing disturbs them. Some, like Chickadees, hang with their heads downward; others sit upright and pick at the catkins. Suddenly a well-understood signal from the leader sends them off like a gust of dead leaves. Although the birds are never silent, I have not heard anything that I could call a song. Each time that I have an opportunity to listen to them I search for words that will describe the chatter they make. As the band rises upward and then swoops downward, I think I hear a grindstone turning rapidly, and the blade held against its surface makes the same shrill, thin sound that the birds utter.

Not until December 8 last year did I see or hear a Pine Siskin. I suppose the warm sunny days, which continued up to December 1, delayed their coming. The first band was small, numbering about fifty. They stayed some time in the alder tops and all the while sent forth their persistent twitter. Although I have examined flocks of these birds with a strong glass, I have not seen other species with them.—Mrs. Eugene D. Lindsay. *Edmonds, Wash.*

How We Made a Bird-Bath

A natural cavity in the rock in front of our house, on the coast of Maine, filled with rainwater, was an ideal place for sailing small boats. Two generations of children had called this 'The Puddle,' and here we blissfully poked our boats about with sticks, and wet our feet.

How often we had watched the Robins, Song Sparrows, and 'Wild Canaries' drinking there in the days when bird-study was almost unknown and only a few birds were familiar to us. When we grew up and graduated from puddle-boats to real boats upon the sea, the birds continued to drink there, but we noticed that the rocky sides were too steep to permit their bathing comfortably, although they made desperate efforts to get in all over.

I conceived the idea of filling the cavity with cement, nearly to the top, where the sides were more slanting, and this scheme my brother carried out. We made a fine, smooth, white floor, about 3 inches from the top, after filling the cavity solidly, pressing it closely into all the cracks and crevices on the sides to prevent the water getting down underneath. Before the surface dried, each member of the family made an impression of the right hand in it, cutting our own initials beside it, and our 'date crank' cut in the year. When this bath was flooded to a depth of 2 inches, it was so pretty that we were delighted.

A Robin was the first bird to christen the pool, and he seemed to appreciate it. Before he bathed, he rushed from one end of the pool to the other, then turned around and rushed back. This he did repeatedly. After he had waded about to his heart's content, he took a good bath. If birds ever sit down, that is what this Robin did, and he was apparently well pleased with himself as he sat half submerged, soaking in the cool water. He took ten minutes for his bath.

With a garden hose and a broom we keep the pool clean and filled with fresh water. The birds love it and in warm weather flock to it in large numbers. We put in the cement floor in August; sometime in the second week and after that date we counted thirty-three different kinds of birds that bathed in it. There were others that drank only. Of these were a family of American Crossbills. A male and four females would come, dipping and twittering from a nearby piece of woods, alight in a large spruce tree by the pool, assure themselves that there were no prowling cats about, and then drink quickly and be off. It was noticeable that Mr. Crossbill usually drank from a small rock-pool near the large one where his wife and daughters regaled themselves, and that sometimes he

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sat in the tree and watched operations. (It may have been that he had visited it before unattended.) At such times he was the first to take flight, and the family, after a few hurried sips, trailed off reluctantly behind him. Excepting the Thrushes, these Crossbills seem to be the most timid of all the birds who visited the pool. They came and went in numbers and usually made two trips a day to drink.

The Thrushes patronized the pool late in the day, and in the chilly twilights of September we frequently saw a Hermit Thrush taking a bath.

Last summer it was not unusual to see Song Sparrows and Warblers splashing about together, seeming to agree that 'the more the merrier.'—MAUD STANWOOD, *Hartford, Conn.*

Notes from London, Ont.

It is some two years since any notes have appeared in BIRD-LORE from London, Ont., and the following items may, therefore, be of interest to BIRD-LORE readers.

The bird-lovers of our city have organized under the name of the McIlwraith Ornithological Club. Our organization, as well as our meetings, is very informal, but an increased interest in birds is already apparent.

CARDINAL.—It is not many years since this bird was of very rare or accidental occurrence in this vicinity. We now look upon it as one of our permanent residents and a very welcome addition indeed. During the winter 1916–17 one of our Club members had eight feeding at his place.

REDPOLL.—It is a long time since Redpolls have been as common as they were during the winter 1916–17. They were noted on every trip taken in the country between December 16 and March 23.

NORTHERN SHRIKE.—When taking the Christmas Census for 1916, one of these birds was found just west of the city at the 'Coves.' This was the first one recorded for about three years. It remained all winter, and about March 21 began to sing. It had a great variety of notes, and we were very much delighted at the opportunity afforded of hearing this rare visitor in song. Strange to say while making the Christmas Census for 1917, a Northern Shrike was found in the exact locality favored by the one last year, and we are led to wonder if it is not the same bird.

LEAST BITTERN.—One of these birds was noted on May 30, 1917, in a fringe of willows bordering a small pond. This is only the second or third time this bird has been reported from London. It was under observation for some minutes at a distance of 30 or 40 feet, and, with the aid of field-glasses, identification was not difficult.

PRAIRIE WARBLER.—This was a new record for our county and was also made on May 30, 1917. The song, which we did not recognize, *zee, zee, zee, zee, zee*, beginning low and becoming higher and louder, first drew our attention. We approached very cautiously, but the bird seemed to ignore our presence and continued singing and feeding in a small dead tree by the edge of the same pond. We got within 12 or 15 feet of it, so that every mark was clearly seen, even to the chestnut patch on the back.

On this trip we also saw a Gray-cheeked Thrush and heard it sing, and recorded an Olive-sided Flycatcher, calling from the top of a tall tree, a Philadelphia Vireo, and Wilson's Warbler, all of which are rather rare migrants with us.

A note from the 1916 season that might be of interest is the nesting of the Golden-crowned Kinglet, a bird which very seldom stays with us during the summer.—C. G. WATSON, Secretary, *London, Ont.*

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THE SEASON

VII. February 15 to April 15, 1918

BOSTON REGION.—During the month following February 15, seven snowstorms delayed the advance of spring, until the earliest birds were ten days overdue. Between March 18 and 20 the first group of migrants arrived in full force—Red-winged and Rusty Blackbirds, Bronzed Grackles; Song Sparrows, and Bluebirds. Two days later there began a remarkably heavy flight of Fox Sparrows and Juncos, with a few Cowbirds—the Fox Sparrows appearing at their normal date, the Juncos, migrating earlier than usual, hurried forward, evidently, by the general movement of birds toward the north.

Cold weather again delayed migration until, on April 2, Vesper Sparrows entered this region and were soon present in full breeding numbers. Another period of low temperature followed with a fall of 6 inches of snow on April 12, some of which still remains on the ground (April 15).

So far the present spring has been, on the whole, the kind of spring we New Englanders must expect—a slow yielding of winter, with periods of summer weather, during which the birds appear suddenly in large numbers, alternating with days of storm and cold, when migrating birds are at a standstill.

The failure of other Sparrows to move north during the favorable weather chosen by the Vesper Sparrows is to be noted; there are very few Field and Savannah Sparrows and Purple Finches here even now (April 20), and no Chipping Sparrows. Flickers are in great abundance. A possible explanation is the menace of Starlings to the southward of this region.

There was a prominent winter migration of Robins late in February; as usual the resident Robins appeared about our houses the latter part of March.—WINSOR M. TYLER, M. D., *Lexington, Mass.*

NEW YORK CITY REGION.—The weather of late February and March was about normal, though with, perhaps, even more high wind than usual in March, especially on Sundays. The early migrants arrived at just about their average times. The first Bluebirds came well before the close of February, but the first real spring Sunday was March 3, when migrating Song and Fox Sparrows, Robins, and Bluebirds were much in evidence, the first Grackles were seen, and a Marsh Hawk and a Duck Hawk seen up the Rahway Valley were probably migrating. Later March migrants arrived with similar promptness, and Ducks (Black Ducks, Pintails, etc.) were plentiful on inland waters.

The Northern Shrikes dwindled greatly in numbers in the latter part of the winter; the last was seen on March 28 (W. DeW. Miller, at Plainfield, N. J.).

Fox Sparrows were perhaps less than ordinarily numerous, and certainly disappeared northward in a great hurry.

Early April was cooler than is usual in this region, and the migration slowed up noticeably, so that birds were everywhere about the city found scarce on Sunday the 7th, though the first Yellow Palm Warblers were noted on that day on Long Island and in New Jersey, and a Robin was observed gathering nest-material (J. T. Nichols, on Long Island). During the following week, a five-day storm, with a great deal of northeast gale, hail, and (during most of two days) heavy snowfall, kept the migration practically at a standstill.—CHARLES H. ROGERS, *American Museum of Natural History, New York City.*

PHILADELPHIA REGION.—The temperature of February averaged about normal, while that of March was somewhat warmer than usual, from the 18th to the 22d being especially springlike. Early migrants arrived about on time: Killdeer, February 16; Mourning Dove, March 17; Flicker, February 27; Red-winged Blackbird, Rusty Blackbird, and Purple Grackle.

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February 24; Fox Sparrow, March 7; Robin, March 2; Bluebird, February 24.

The Northern Shrike was last noted February 16. Long-eared Owls were last observed at their winter roost March 3.

During the second and third weeks of March there were a good many Ducks on the Delaware River. On March 17 a flock of about two hundred and fifty were observed, composed of Mergansers, Pintails, Scaups, Black Ducks and several Redheads. Again this spring the Wood Duck has been a common sight at some points.

A great Blue Heron was seen February 24, and an early Brown Thrasher March 31.

Taken as a whole, February and March offered very few unusual sights to the bird student.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—Of all the months, February and March offer, generally speaking, least to attract the ornithological observer in the vicinity of Washington. Most of the interest in winter residents has waned, and but few spring migrants put in their appearance. This year, however, these months have been unusually interesting by reason of the large numbers and great variety of Ducks that have frequented the Potomac River.

In our last report mention was made of the thousands of Ducks of various species that occurred on the river during the winter. Species seen in February and March, additional to those reported in December and January, are: Green-winged Teal, Pintail, Baldpate, Ring-necked Duck, and Shoveller, making a total of 17 kinds of Ducks observed thus far this season. Of these the most numerous have been the Greater Scaup, Lesser Scaup, Golden-eye, Canvas-back, Black Duck, and Redhead. The Baldpate, in recent years, has been one of the rarer Ducks, and there are apparently only two previous definite records for the earlier part of the year, these being February 11, 1899, and March 31, 1912. Six individuals of this species were seen by Mr. Raymond W. Moore at Belmont, Va., on March 30. The Shoveller, for which no previous definite spring dates have been obtained, was observed on the Anacostia River on March 24 by Lieut. Ludlow Griscom; and 12 individuals were seen at Belmont, Va., on March 30 by Mr. Raymond W. Moore. A few species of Ducks remained considerably beyond their normal time of departure, such as the Mallard, the usual date of departure of which is March 17, but which was seen at Dyke, Va., on March 31. Two lingered beyond their previous known latest dates: the Green-winged Teal until March 31 (latest previous date, March 25, 1917); and the Canvas-back until March 30 (latest previous date, March 25, 1881).

The severe winter gave place, about the middle of February, to much milder weather, and indications point to an earlier spring than we have had in this region for the past two or three years. Its effect is already noticeable on the bird-life, although some of our common species, like the Carolina Wren, Red-headed Woodpecker, Golden-crowned Kinglet, Winter Wren, and Red-breasted Nuthatch, are more than ordinarily scarce. A number of the early migrants have occurred considerably ahead of their schedule. The American Coot was seen at Belmont, Va., on March 9, its earliest previous record being March 14, 1910; the Phœbe appeared on March 3 (average date, March 10); the American Pipit on March 10, at Kensington, Md., (average date, March 21); Purple Grackle on February 13 (average date, February 20); Vesper Sparrow on March 11 (average date, March 24); Chipping Sparrow on March 18 (average date, March 26); and the Catbird, seen along the Anacostia River by Mr. C. M. Shaw on March 14 (average date, April 22). A very few Robins have remained all winter, but only in the most sheltered places. The first certain migrants appeared on February 13.

The following notes on other species may also be worthy of mention in this connection: Horned Larks and Prairie Horned Larks, mostly in small flocks containing both forms, were reported by Mr.

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Francis Harper as common throughout February at Camp Meade, Md. A large company of Fox Sparrows, numbering some 150 individuals, was observed at Falls Church, Va., March 15, 1918, by Mr. I. N. Gabrielson; and a small flight of Red-tail Hawks, numbering 20 individuals, was noted at the same place by the same observer on March 6, 1918. The Great Horned Owl, which is regarded as a rare bird in this vicinity, was found by Mr. Raymond W. Moore at Kensington, Md., several times between March 6 and 10, probably nesting in that vicinity. A single Bronzed Grackle, a bird of rare and irregular occurrence in this vicinity, was seen in the grounds of the Agricultural Department on March 18, and, possibly the same individual, on one or two subsequent dates in the same vicinity.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

OBERLIN REGION.—The 1918 season opened with the arrival of Crows, Bluebirds and Robins on February 14, which is the earliest date in the history of this region. There was no further movement until a Killdeer appeared on the 22d. On the first day of March there was a considerable movement of Crows, Bluebirds, Robins, and Song Sparrows, followed two days later by the first Meadowlark, Bronzed Grackles, and Mourning Doves. During this period of unseasonable warmth the resident Woodpeckers, White-breasted Nuthatches, and Tufted Titmice began their courting.

The next migration movement occurred on March 13, with the arrival of the Rusty Blackbird and Towhee, and a decided increase of the Meadowlark and Bronzed Grackle. On the 16th the Red-winged Blackbird and Mourning Dove became common, and the Migrant Shrike and Cowbird arrived. The next day Bluebirds became common and the Fox Sparrow arrived. The rest of March witnessed the usual scattering arrivals of Field Sparrows on the 20th, Phœbe on the 21st, and Belted Kingfisher on the 23d, with an increase of earlier arrivals.

The largest wave thus far began on March 31 and extended to April 8. The Turkey Vulture and Vesper Sparrow came on the 31st, Pectoral Sandpiper on the 1st, Swamp Sparrow and Bittern on the 2d, Yellow-bellied Sapsucker on the 3d, Wilson's Snipe and Brown Thrasher on the 5th, Chipping Sparrow on the 6th, House Wren on the 7th and Purple Martin on the 8th; and a decided increase of species which had arrived earlier.

While the weather of the latter half of February and nearly the whole of March was unusually warm and bright, the migrations, after the first arrivals on February 14, were late and slow. Ducks were conspicuous by their almost entire absence, and Woodcock and Wilson's Snipe were not found until it was unusually late for them. Vesper Sparrows usually come in a great swarm on the first day, but even at this writing they are less common than usual.

The exceptionally hard winter brought about almost an extinction of the Bob-white. Until December there were numerous coveys on all sides of town. Now only a single pair can be located in the whole region.—LYNDS JONES, *Oberlin, Ohio.*

MINNESOTA REGION.—The third week of February was a continuation of our unusually severe winter, a temperature of 14° below being recorded on the 20th and 21st. But from this time began a remarkably mild and beautiful spring, broken by only a single setback which occurred March 9, when a terrific blizzard, with a very heavy snowfall, swept the entire state. But warm days followed immediately, and this snow quickly disappeared, except up north, and a spring, a week or ten days ahead of the ordinary, was ushered in to continue until the present date. Robins appeared in numbers in the vicinity of the Twin Cities in the middle of March and reached the "Range" country above Duluth, where much snow and ice still lingered, by the end of the month. On March 25, the ice went out of the Mississippi River for some distance above St. Anthony Falls (Minneapolis)

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ten days or two weeks ahead of time, and that day several Herring Gulls were seen cruising up and down the gorge, looking for food among the floating ice-masses. On March 31 a nest of the Horned Lark, containing young birds just hatched, was found at Cambridge, Isanti County, some forty miles north of Minneapolis, by Lawrence Lofstrom. This bird will nest as soon as the ground is bare of snow, regardless of temperature, and many of the earlier nests are destroyed by freezing weather and snows.

By the end of the first week in April, the ice in the large lakes in the latitude of Minneapolis was adrift and rapidly breaking up. Farther north it was still intact. The intense cold and absence of snow the past winter caused ice to form on all still or sluggish water to the thickness of nearly three feet. The quiet manner in which this great ice-sheet became honeycombed and disappeared was most fortunate. Thick, solid ice, loosened from the land, and heavy winds sometimes work terrible havoc along the shores of our larger lakes.

On March 17, at Minneapolis, Robins were passing by in large companies; Bluebirds had paired and were examining possible tenements; Phœbes were similarly occupied; flocks of Rusty Blackbirds were making music in the groves; male Redwings were conspicuous in the swamps; Song Sparrows were everywhere; a few Hermit Thrushes were silently searching the coverts; Flickers were beginning their noisy love-making, and the bushes were full of Juncos and Tree Sparrows. From this time on the regular procession of the earlier migrants that move on a temperature rather than a fixed schedule, arrived in the usual order but a week or so ahead of time, in correspondence with the earlier season: Fox Sparrows, April 5–9; Pied-billed Grebes, April 9; and on April 14, Yellow-headed Blackbirds, a Migrant Shrike, a Kingbird, Lesser Yellowlegs, Myrtle Warblers, and many Coots; also, on the 14th, many Blue-winged Teal, Shovellers, Pintails, Baldpates, and Gadwalls in a large slough, some ten miles from Minneapolis, where they were feeding and seemingly mated.

By the middle of April, vegetation was fairly started, hepatica, bloodroot, Nuttall's pasque flower, the catkin-bearing trees, and the hazelnut being in full bloom.

Up in northern Minnesota conditions are still, at this date, much more wintry. Piles of snow yet remain in sheltered places, the nights are cold, and the Duluth Harbor is piled high with thick masses of winter ice driven in from the frigid waters of Lake Superior. Only the hardier migrants, like the Robin, the Song Sparrow, and the Red-wing have ventured thus far.—THOS. S. ROBERTS, *Zoological Museum, University of Minnesota, Minneapolis.*

DENVER REGION.—We are told that there is no accounting for taste; sometimes I think that there is no accounting for the seasonal distribution of our birds. I had anticipated an early return of our birds this season because of the mild local weather conditions in the West. Yet, Hawks were not early in getting here but, rather, were a little behind the usual schedule, for it was not until April 7 that many Red-tailed, Ferruginous, Rough-legged and Sparrow Hawks were seen in the southern outskirts of the city. On the other hand the first Sage Thrasher I saw was on time (April 7), though one of my friends reports having seen one nearly a month earlier. Last year at this time there were many Townsend's Solitaires in the various parks of the city, yet I have utterly failed to see even one since last autumn. At the present writing (April 15), all the species and subspecies of Juncos wintering here have left, except the Gray-headed, which is an unusual situation, since they linger ordinarily well on toward the end of April. It is always a matter of interest to note each winter that, while a few Meadowlarks remain in the rural districts about Denver, it is seldom or never that one is seen in winter in our parks, or within the city proper; this species reached the vicinity of my home about April 1, a date close to

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the average of the past eight years. I had anticipated and expected seeing them two weeks earlier. The American Rough-legged Hawk and the Northern Shrike were prompt in leaving on time, while the Mountain Bluebird was late in arriving, both in the outskirts and in the parks and city. All these remarks are based purely on my own personal observations and records, which might easily conflict with those of someone who had more time and opportunity for field work. The gist of all these remarks is that birds which I had looked for early arrived on time, or perhaps a little late, while species which I thought would leave for the North early, departed as usual, hence my opening paragraph.

While driving about in the outskirts of the city on April 3, during a fairly heavy snowstorm, I was surprised to see several different flocks of Robins, at different times, migrating *northward*, despite the storm. It is probable that the storm was purely local, producing little, if any, effect on the birds as they traveled north. A heavy, extended snowstorm does otherwise: on April 9, 1913, the weather in Denver was ideal, and we had our usual number of Robins in our parks, but that night there occurred a heavy snowfall extending over a large area adjacent to Denver, and the next day was clear and cloudless. The city was found, at daylight, to be full of Robins. They remained all day in the city, began leaving shortly after sunset that night, and one could hear them calling, as they winged away, until late in the evening—in fact I heard them from my sleeping-porch until nearly midnight. The next day Denver's Robin population was again at its normal level.

The mild weather here in March seemed to accelerate the nesting of three species: the Pine Siskin (March 22), the House Finch (March 24), and the Robin (April 1).—W. H. Bergtold, *Denver, Colo.*

TO AN UNSEEN SINGER

(Acrostic)

Why do you tempt me when I may not come?
Have you no heart beneath that liquid voice,
Insistent singer? Do you e'en rejoice,
Persisting when the sleeping world is dumb?

Persuade me not to try to find your home!
Oh leave me to my work, for tho' my choice,
O Temptress, were to follow you, the price
Restrains me. Go, whence-ever you may come!

Would you be quieted, or louder call
If I should tell you that I toss, awake,
List'ning to catch your song across the brake—
Losing e'en that, and sleeping not at all?

—Joseph Gavit

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Book News and Reviews

THE BIRDS OF LOUISIANA. By STANLEY CLISBY ARTHUR, Ornithologist, Department of Conservation. Bulletin No. 5, Department of Conservation, State of Louisiana, New Orleans, January, 1918. 8 vo. 79 pages; photographs and line cuts.

The present paper has been prepared, the author states, "in response to numerous requests from schools, nature teachers, bird lovers, and others. It is based in part on original observation, and also upon the lists of Louisiana birds by Beyer and by Kopman, and upon Howell's 'Notes on the Winter Birds of Northern Louisiana.' "

It treats of 368 species and subspecies from a somewhat general point of view, there being practically no exact dates of arrival and departure of the migratory species. Brief descriptions of plumage and notes upon numbers and haunts make it a popular exposition of the Louisiana avifauna rather than a scientific treatise upon it. As such it should reveal to the residents of the state the wealth of their bird life and the responsibility resting upon them for the conservation of the water-fowl which winter in their waters. —F. M. C.

TALES FROM BIRDLAND. By T. GILBERT PEARSON. Illustrations by CHARLES LIVINGSTON BULL. Doubleday, Page & Co., Garden City, New York. 1918. 12 mo. 237 pages; 46 line cuts and halftones.

In story form Mr. Pearson here recounts, sometimes the individual experiences, at others the more generalized history of a number of well-known birds. The method followed, while not obviously intended to convey reference book information concerning the species treated, seems much better designed to hold the attention of youthful readers than a more formal presentation of the same facts.

We especially like the local color of the stories from the South, in which Mr. Pearson achieves a success that suggests that he may later give us the feathered counterpart of Brer Rabbit.

Mr. Bull's drawings add much to the attractiveness and value of the book.—F. M. C.

The Ornithological Magazines

THE AUK.—The January issue opens with an obituary notice of Dr. Edgar A. Mearns, by Dr. Chas. W. Richmond, accompanied by an excellent portrait of this indefatigable ornithologist who was one of the school that bridges the gap between the older and younger men who have devoted themselves to their favorite study.

Mr. Richard C. Harlow's 'Notes on the Breeding Birds of Pennsylvania and New Jersey' is to be commended to the attention of oölogists, as it contains information that is really worth publishing. The earlier breeding of the Virginia Rails of inland marshes, as compared with those of the salt marshes, is interesting. May it not be that the sea-breezes are responsible for a cooler and later season?

In 'Uncolored Prints from Havell's Engravings of Audubon's "Birds of America,"' Mr. Henry Harris calls attention to the part played by Mr. Havell in the production of the plates of this monumental work, and two of them, in halftone, are shown.

Mr. Horace W. Wright writes on the 'Labrador Chickadee (*Penthestes hudsonicus nigricans*) in its Return Flight from the Fall Migration of 1916,' and Mr. H. Mousley, in a brief sketch, records 'The Breeding of the Migrant Shrike at Hatley, Quebec, 1916.' An annotated list of 'The Birds of Walla Walla and Columbia Counties, Southeastern Washington,' is begun by Mr. Lee R. Dice.

'A Revision of the Races of *Toxostoma redivivum* (Gambel),' by Mr. Harry C. Oberholser, reduces them to three. Mr. Oberholser also has a fourth instalment of his 'Notes on North American Birds.'

The account of the 'Thirty-fifth Stated

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Meeting of the A. O. U.,' from the pen of Dr. T. S. Palmer, marks a new era in the fortunes of the Union. Our previous Secretary, Mr. John H. Sage, who has faithfully served in this capacity ever since the infancy of the organization, has been elected to the presidency, and we may well hope that his mantle has fallen upon as willing shoulders.

Among the many items that may be found among the closing pages of this issue, special attention should be directed to the list of members 'called to the colors' which doubtless will be much extended if our Secretary is given the names of those who should be added to this honor roll by those who can furnish the information.

The April issue of 'The Auk,' while lacking in illustrations, contains a large amount of information. Many readers will be interested in 'The Evening Grosbeak (*Hesperiphona vespertina*) in Maine, with Remarks on its Distribution,' by Mr. Arthur H. Norton. This striking and irregular wanderer from the Northwest is a bird that always justly excites the imagination of field observers.

Mr. Frederic H. Kennard discusses 'Ferruginous Stains on Water-fowl,' and shows that a difference in feeding habits accounts for some species being stained and others not, for 'diggers' have stains and 'croppers' do not. The stain itself is oxide of iron, occurring in the water where the birds gather to feed.

'A Study of the Yellow-billed Cuckoo,' by Clara K. Bayliss, is a picturesque account of the growth and habits of young birds in a nest under observation; 'The Description of the Voice of Birds,' by Dr. Reuben M. Strong, contains some useful hints concerning this most difficult subject; and 'Ipswich Bird Notes,' by Dr. Charles W. Townsend, adds something to his earlier list of the birds of this part of Massachusetts.

Mr. Harry C. Oberholser, in 'Notes on the Subspecies of *Numenius americanus* Bechstein,' reaches the conclusion (earlier advanced by Dr. L. B. Bishop) that this Curlew is represented by two races, *americanus* and *occidentalis*. We must confess we are far from being convinced that the question is correctly settled, in spite of the array of localities, dates, and figures presented. Mr. Oberholser also presents a fifth instalment of 'Notes on North American Birds,' and a compilation entitled 'Third Annual List of Proposed Changes in the A. O. U. Check-List of North American Birds.' However, let not the rank and file despair, for the A. O. U. committee has never yet failed to reject less than about 50 per cent of all proposed changes.

Mr. Richard C. Harlow continues his list of the birds of Pennsylvania and New Jersey, and Mr. Raymond L. Dice continues his on the birds of southeastern Washington. 'A New Species of Loon (*Gavia viridigularis*) from Northeastern Siberia' is described by Dr. J. Dwight.

The various departments closing the issue are full of valuable items of information, and the list of those A. O. U. members called to the colors is much extended.—J. D.

THE CONDOR.—An interesting memorial, by W. K. Fisher, of Lyman Belding, one of California's pioneer naturalists, forms the opening article of the March number of 'The Condor.' It is accompanied by an excellent portrait and a bibliography of 48 titles contributed by Joseph Grinnell. This is followed by an account of the habits of 'The Salt Marsh Yellow-throats of San Francisco,' by G. W. Schussler. Attention is called to the fact that the practice of truck gardeners of cutting wire-grass in the vicinity of Lake Merced for binding vegetables probably results in the destruction of numbers of eggs and young and forces the birds to nest in the inaccessible tules in the lake or in the thickets higher up toward the banks. The continued article by Mrs. Bailey on 'The Return to the Dakota Lake Region' is devoted mainly to the birds along Phalarope Slough and those observed from the farmhouse.

Ray contributes an interesting account of the birds of the Tahoe region entitled,

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'Six Weeks in the High Sierras in Nesting Time,' and shows that some of the birds begin to nest the middle of May when snow is still on the ground. A month later (June 12) nests and eggs of Mountain Chickadees, Sierra Creepers, Williamson's Sapsuckers, Blue-fronted Jays, and Sierra Juncos were found at the base of Pyramid Peak, at an altitude of 8,000 feet, when the region was covered with deep snow. Under the title 'The Scarlet Ibis in Texas,' Sell reviews the mass of data relating to the local occurrence of this species and accounts for no less than nine mounted specimens said to have been obtained in the state. If these records are authentic, the bird is evidently not so rare in Texas as has been supposed.

'The Subspecies of the Oregon Jay' have recently been examined by Oberholser and Swarth independently, and the differences in the conclusions reached by these two ornithologists are commented on briefly by Swarth. In 'Bird Notes from Forrester Island, Alaska,' made in 1917, Willett adds fifteen species to the island bird-list, including the Pink-footed Shearwater and Brandt's Cormorant, recorded for the first time from Alaska. As a result of field work in 1917, in Mono and Inyo Counties, in the region east of the Sierras, Grinnell is able to add seven birds to the California list. Two of these, the Inyo Slender-billed Nuthatch (*Sitta c. tanuissima*) from the Panamint Mountains, and a Hermit Thrush (*Hylocichla g. polionota*) from the White Mountains, are described as new subspecies; positive evidence is produced for the first time of the breeding of the Broad-tailed Hummingbird in California, and the Rocky Mountain Pigmy Owl, White-breasted Woodpecker, Chestnut-collared Longspur and Mountain Towhee are species new to the state.—T. S. P.

El Hornero.—This recent addition to the list of ornithological magazines is the organ of the Ornithological Society of La Plata. It takes its name from *Furnarius rufus*, the Oven-bird, one of the most characteristic and well-known species of Argentina.

Thus far only the first number of 'El Hornero,' dated October 1, 1917, has reached us. It outlines the admirable aims of the Society it represents for the protection of birds and for arousing an interest in them in Argentina and the neighboring countries, and contains a number of technical and popular articles.

Roberto Dabbene, the well-known Curator of Ornithology in the Museo Nacional at Buenos Aires, and president of the Society, presents a summary, with illustrations and a key, of the Swifts of Argentina, and also contributes a paper on a collection of birds from the island of Martin Garcia in the Rio de la Plata. M. Doello-Jurado writes at length on the birds of Puerto Deseado off Patagonia. His extended notes on nesting-habits are accompanied by excellent photographs.

Under the title 'Formacion del "Gabinete del Rey,"' Felix F. Outes gives some most interesting historical data concerning the earliest notices of South American birds and bird collections. Manuel Selva discusses in a suggestive manner a classification of birds based on haunts and nesting habits, and there are shorter notes by Pedro Serié, Hector Ambrosetti, and Roberto Dabbene which, together with several pages of news items, show that 'El Hornero' is not lacking in material for its pages.

We wish this magazine and the Society of which it is the organ every possible success.—F. M. C.

Book News

Students of the coloration of birds will be interested in an article by Dr. W. H. Longley, entitled 'Studies upon the Biological Significance of Animal Coloration,' which appeared in 'The American Naturalist' for May, 1917 (pp. 257–285).

'The Bluebird,' published at Cleveland, Ohio, announces that on and after April 1 its yearly subscription price will be increased to $1.50, that single copies will be 15 cents, and that no free copies will be distributed.

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Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

WHEN the Birdcraft Sanctuary and Museum was evolved under the direction of Mabel Osgood Wright, some three years ago, we unreservedly expressed our belief that, in its field, the enterprise was one of the most important practical steps to promote an interest in the study of birds with which we were familiar.

It required, indeed, very little imagination to see the bright future which lay ahead of this novel attempt to combine a museum of dead birds with an exhibit of live ones. Nevertheless, we read with much satisfaction Mrs. Wright's report of the development of this enterprise and of its growing hold upon the locality in which it is situated.

Birdcraft, having passed the experimental stage, is now a convincing demonstration of what may be accomplished with a comparatively small outlay in any suburban community.

It was not necessary to acquire square miles of territory—ten acres were enough—nor was a large and imposing edifice essential. A modest building, enlarged as circumstances required, has answered every purpose.

Herein lies Birdcraft's chief value as an object lesson—it was not planned on a scale which prohibits duplication.

What we now hope to see is the adoption of the Birdcraft idea throughout the country. Here is a mark for every public spirited nature-lover, Audubon Society, and bird club to aim at. One is not required to advocate the adoption of a theory, for the greatest doubter must admit that Birdcraft has passed the theoretical stage.

Here is an abiding place for the local natural history society, and a focal point in every phase of community life which has to do with nature. The value to any organization of a home where its interests may be developed and its possessions deposited is too well known to require comment. But we perhaps do not at first realize how greatly any group of people who are aiming to secure the support and coöperation of their neighbors for the common good, is strengthened by having an actual exhibit of what they stand for.

The influence of the Birdcraft idea on children cannot well be overestimated. The very fact that, as Mrs. Wright says, it is a "rural, cottage affair" is all in its favor. A visit to a neighboring city with its great museum may be out of the question, but a local, village museum is always within reach. And the chances are that, so far as its collections go, more information will be gained from the small local, than from the large general institution.

So far as we are aware no large museum in this country has solved the problem of making its exhibits speak. Infinite care has been devoted to labels and no pains spared to word them intelligently and print them clearly. But too often it happens that he who runs does not read and, at the best, the average mind soon tires in its search for information. Herein, in our opinion, lies the very essence of Birdcraft's success. Its exhibits are not expected to tell their story merely through the printed, but also through the spoken word.

No Birdcraft then will be complete unless it includes, besides its specimens, stuffed and living, a caretaker, warden, or curator, call him what you will, who can and will speak with authority and sympathetic understanding of the student's difficulties, concerning the museum and sanctuary of which he has charge. Incidentally, such a position offers wide opportunity for an intensive study of bird-life.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

AWAKE TO THE TIMES

A familiar precept says: "Do the duty that lies nearest thee." Never was this admonition more needed than now, when duties of many kinds crowd upon one, jostling one's accustomed habits of action, upsetting, as it were, for the moment, all preconceived ideas of personal preference and estimates of service. From all sides come instructions as to what to do, how to do, when to do, where to do, and from all sides, too, come appeals so urgent that only the selfish, indifferent, and idle can hear them and shirk the responsibility they impose.

For the instant, one is swept from the familiar moorings of everyday routine, helplessly groping for some stable anchor. The kaleidoscopic changes in world-issues from day to day grow in number and intensity until one is forced to "speed up" every mechanism of mind and muscle, to keep abreast of the whirling destinies of the nations. Once wide awake, however, to the fact that, shaken as we are to the very foundations of life, a sublime reconstruction of society is in the making, we look forward with hope to new ideals and a new goal. It is useless to try to prop up the old life so rapidly vanishing, or to attempt to understand the onrushing events, which outline daily more clearly the new life ahead, by means of processes now outgrown.

The day has come when one and all must *act together*, *think together* and *bridge over together* the old and the new. Are you personally awake to the times?

The scope of readjustment necessary to accomplish this personal reconstruction is very broad, so broad, indeed, that it reaches out to the small interests of life as well as embracing the larger. In the storm of events of world-wide bearing through which we are passing, there may seem to be little place for bird-study and smaller need for effort in Audubon Society work. It is a mistake, however, to get the idea that people are too busy to pay attention to the birds or to nature in general either in the field or along educational lines. A moment's reflection will convince anyone of the importance and benefit of pushing steadily ahead in all of these undertakings. Two items from the front are as good as more proof that bird-study and bird-work are of value *now*. It is stated, on authority, that Canaries, kept in the trenches, detect the onrush of the loathsome and poisonous gases, which are a constant menace to millions of lives, before any human being is aware of the danger, and that thus these tiny songsters act as a safeguard, not only to soldiers, but also to civilians in their neighborhood.

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Of quite as great service, also, are the migrating and nesting birds, of which a member of an important commission, visiting the front, wrote: "In the lull of the booming artillery I heard the birds singing in the few remaining trees of the vicinity. It was the sweetest music that ever fell on my ears."

This observer also made the statement that from an eminence where thirty-eight villages were visible before the war nothing is to be seen now except shell-holes and ashes, dotted here and there with patches of green containing rows of white crosses. Far below the surface of what once could be called the *earth*, but which now bears no resemblance to soil, are soldiers in trenches, some of whom have not had even a day's furlough in fourteen months. What must the songs of wild birds, as well as of Canaries, mean to these dauntless heroes! What, too, must be the strength of the instincts of those feathered travelers from afar, who, returning to their accustomed haunts, find only here and there a stub of a tree, still struggling to put out leaves, where they may rest and break forth into song. The thought of the birds' constancy and cheer in those areas of utter desolation, where only soldiers remain, living like the cavemen of old, fills one with wonder and gladness.

Recently, at an Audubon Society mass meeting in Tremont Temple, Boston, especial emphasis was laid upon the relation of birds to gardens, orchards, crops, and forests, and the unusual opportunity now before us of making this relation better understood and more widely appreciated.

Without multiplying instances further, let the facts be accepted that birds are of probably greater value than before the war, and that there has never been a time when bird-study and bird-work were more needed, both objectively and subjectively, than now. In this connection three matters make a particular appeal at the moment of writing:

First, is the *immediate need* of establishing the most practical relations between birds and man in agriculture. Thousands of home gardens are being made, in addition to the cultivation of thousands of extra acres for cereal crops. Birds can do much to help and somewhat to harm if left to themselves. An intelligent gardener, horticulturist, farmer or forester will study the birds which find their food and make their nests in his especial precinct, and after observing at first-hand their habits, will seek to take advantage of their helpful methods and to protect his fruits or crops in case he discovers any harmful practices on their part.

To aid him, as well as to stimulate healthful competition in bird-study in the graded schools, the scheme of charting the food-supplies grown within stated areas, such as towns or counties, might very profitably be undertaken.

Charts of local areas should form the basis of county and state charts. In order to make the survey successful and the charts of value for purposes of actual comparison, the following points are suggested for the consideration of teachers or directors of Junior and Adult Audubon Societies.

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1. Prepare correct outline maps of the state in which you live, having as many maps as there are counties in the state.

2. Prepare county maps on a scale corresponding to that of the state maps.

3. Indicate in different colors, on both state and county maps, the distribution of the principal food-crops of the state, such as grains, potatoes, hay, sugar, garden vegetables, etc., adding, also, forested areas, water areas, and orchards and forests. Study the distribution of minerals and indicate the location of mines or veins of minerals.

4. When these maps have been carefully worked out in as complete a manner as possible, superimpose each county map, in its proper position, on a state map and study the result.

5. Take up towns and villages in the same manner, with reference to county maps, drawn to sufficiently large scale to be easily seen when hung on the wall.

6. Study these charts in detail, until you are clearly informed as to the natural resources of the state as a whole.

7. When the resources of your own state are exhausted, try comparing them with those of adjoining states.

8. So far as possible, determine the birds which are distributed in the various parts of any particular county, keeping a record of the habits and occurrence of each species with reference to gardens and cultivated areas throughout the state. Note particularly the differences in distribution of forested, wet and dry, cultivated and uncultivated areas.

9. Make a state, county, and town or village record of the average annual rainfall, snowfall, and extremes of heat and cold, and of humidity and aridity.

10. Study soils, learning to recognize different degrees of fertility by means of analyzing the composition of soils, and make a village or town chart, showing the location of fertile and infertile areas. Look up a few facts about the difficulty of "clearing" land and of the rapidity with which neglected farms or gardens go back to a state of nature. If possible, assemble such village or town maps by counties, and then groups of county maps by states. Where possible, use modeling clay to make topographic maps instead of ordinary charts.

11. In a general way, gain an idea of the humid and arid areas in the United States and Canada, noting the location of forested areas, large bodies of water, average rainfall, snowfall, and extremes of temperature. Isothermal (equal heat) and isohyetal (equal rainfall) charts are full of interest and are not difficult to understand.

12. With this knowledge as a background, review the migration and nesting distribution of our native birds. Try to find out some reasons why birds frequent the particular areas where they are most commonly found.

Reference to the following works will be helpful:

Life Zones and Crop Zones of the United States, by Dr. C. Hart Merriam, Bulletin No. 10, Division of Biological Survey, U. S. Department of Agriculture.

Laws of Temperature Control of the Geographical Distribution of Terrestrial Animals and Plants, by Dr. C. Hart Merriam, *National Geographic Magazine*, Vol. VI, pp. 229–238.

The Geographic Distribution of Animals and Plants in North America, Yearbook of the U. S. Department of Agriculture for 1894, pp. 203–214.

Useful Birds and Their Protection, and also, *Game Birds, Wild Fowl and Shore Birds*, by Edward H. Forbush, Massachusetts Department of Agriculture.

Consult the bibliographies in Chapman's *Handbook of Birds of Eastern North America*, and *Color Key to North American Birds*, Weed and Dearborn's *Birds in Their Relation to Man*, and also, Yearbooks of the U. S. Department of Agriculture, as well as bulletins and reports published by State Departments of Agriculture.

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A second matter of unusual, indeed, of pressing importance at this time, is bird legislation. Scarcely a state is safe from the influence of various classes of selfish or ignorant and wilful people who want laws sufficiently lax to enable them to shoot, trap, or destroy birds and their eggs without penalty. Nowhere, apparently is the feminine public as yet educated to the necessity and desirability of eliminating the plumage of birds from hats.

To destroy birds for the purpose of using their plumage as trimming for hats, or neck-scarfs and capes, is becoming more and more a crime against which every reasonable person should enter a protest. This spring, women of all ages and classes are appearing in hats decorated with wings, quills and elaborate feather-garlands *ad nauseam*, to say nothing of a superabundance of ornaments in the similitude of aigrettes, which are too inartistic to adorn the hat of anyone who has regard to her appearance.

There is a warning we should all heed now, in the terrible and apparently unending destructiveness of war, and that is, that part of the depravity underlying such appalling waste comes from the ENCOURAGEMENT OF CRUELTY AND UNLAWFUL PRACTICES in the economic world, of which every purchaser of a bird's feather on a hat, as well as of garments made in sweat-shops or by child-labor, is as much a part as the owners of stores or factories dealing in these articles or conscienceless dealers who profit by the plunder of natural resources at the ultimate expense of the public.

The trade in bird's plumage is absolutely unjustifiable, involving, as it does, not only the destruction of a valuable natural resource, but, also, cruel practices which debase the ignorant or lawless creatures who are tempted to them for a pittance.

Far greater progress has been made in raising the standard of conditions in factories than most people are aware of. It is easy to find practically ideal conditions in such places, and it is not difficult to point to very fair conditions, but in the matter of traffic in the plumage of birds, aside from that in ostrich plumes, nothing in favor of it can be said. It is a lasting disgrace to every woman that such a traffic exists. Will the girls of this coming generation put the stamp of disapproval upon it and banish forever the plumage of wild birds from their wardrobe?

Why not at this critical juncture lend our influence toward finding a means of support for the thousands upon thousands of refugees and crippled soldiers, who from now on will be forced to a restricted livelihood, by offering to adorn hats with simple but artistic ornaments which they could make? If we create such a demand, we might relieve an unlimited number of cases of destitution and assist materially in lightening the burden of the Red Cross and other relief societies, and even of governments. Everyone must have a chance to live, and we must learn to help more than ever before those who have been made helpless. The decoration of a woman's hat might become an insignia of noble service instead of a disgraceful badge of perverted vanity. Shall we redeem the

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past by renouncing forever the traffic in bird's plumage and by substituting for it one which will bring hope as well as financial return to thousands who need our assistance?

One further matter is urgent, and that is the training of nature-study teachers. Aside from the fact that many teachers have gone into government or relief service, there is an increasing need for well-trained instructors in nature-study. More than ever, the appeal of Nature comes now as a source of stable, safe, and sure comfort. In our present overwrought condition, everyone needs the cheer and healthful influences of outdoor life and associations.

It will be wise, therefore, to make provision for this need by assisting teachers to take special training in bird- and nature-study work. Realizing this need, many of our summer schools are offering uncurtailed courses, in the face of large deficits. Will our State Audubon Societies not take up this matter and find out ways to enable teachers to attend these schools?

This suggestion has been made before. It should not be overlooked.

A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XXXIX: Correlated with Home Gardening, Civics, History and Field Observation

In a quaint old volume entitled 'Annals of Salem,' there are many references to the difficulties of getting a sufficient supply of food raised to save the pioneer population from distress in the early days when our country comprised but a thin fringe of seaboard colonies along the bleak Atlantic. Governor Endicott wrote to Governor Winthrop in 1631 with reference to dismissing Court until the "corn be set": "Men's labour is precious here in corn setting time, the Plantation being yet so weak."

Corn became so scarce, owing to insect pests, frosts, and droughts, that "many families in most towns had none to eat, but were forced to live of clams, cataos, dry fish, etc." In those early days the raising of wheat was an experiment, although the annalist observes that Massachusetts promised to become a wheat-growing colony. Then, as now, in times of food-shortage, "human selfishness was on the alert for gain, and benevolence cast into the back-ground," for the ignoble profiteer was not an uncommon member of society.

Gray squirrels were said to "devour the corn exceedingly," but no mention seems to be made of Crows. Some of the farmers dug trenches around their fields to protect the corn, and more especially, wheat and barley, from ravages of cankerworms. Under date of July 30, 1770, cankerworms were extensively destructive, even penetrating houses, rooms, and beds. "To hinder this annoyance, houses were tarred." Several decades earlier, the Bishop of Lausanne

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"gravely pronounced sentence of excommunication against the multitudes of caterpillars which desolated his diocese." The annals continue: "None of our countrymen have believed in such means as efficacious. They have devised measures to destroy them all they could and then waited for their disappearance."

There was a general impression that cankerworms ran out in seven years. At any rate "after 1834 their numbers were smaller," and the apple-tree eventually furnished their favorite food.

So destructive were some of these pests that fasts were held from time to time on account of caterpillars and "palmer worms." That the numbers of these insect foes were alarmingly great seems evident from the current reports of those who journeyed from one locality to another. Even making due allowance for exaggerated descriptions, it is hardly likely that anyone would write: "This summer multitudes of flying caterpillars arose out of the ground and from roots of corn, making such a noyse in the aire, that travellers must speak loud to hear one another, yet they only seazed upon the trees in the wilderness," unless great numbers of locusts were present.

The struggles of our forefathers to establish an adequate and increasing food-supply, we, in our day and generation, shall never be able to realize. Without proper and time-saving implements, or sufficient fertilizing material, and probably with very little if any idea of intensive cultivation, their labors in productive agriculture were rigorous and more often than not, unrewarding. How ample to them would seem the food-supply of to-day, and how simple and easy the requirements for food-conservation laid down by our wise administrators!

It is interesting to find references to nesting and transient birds in these forgotten annals of olden times. Writing to the Countess of Lincoln in 1631, Governor Dudley said: "Upon the 8 of March from after it was faire daylight untill about 8 of the clock in the forenoon, there flew over all the towns in our plantacons soe many flocks of doves, each flock conteyning many thousands and some soe many that they obscured the light, that passeth credit, if but the truth should bee written." Doubtless the "doves" mentioned were Passenger Pigeons, lost to us and to all who come after us. The migration of birds was little understood in those early days, so it is not surprising that the appearance of such large flocks of Pigeons was thought to portend some great event.

How great the changes are that have come to our land since its pioneer settlement, we can grasp more clearly by studying graphic charts than by reading statistics. In the editorial of this number entitled, "Awake to the Times," is a suggestive outline by means of which fairly accurate comparisons of present conditions can be made. When you have a general idea of these conditions, a mental picture, as it were, of the resources of your home state and adjoining states, add to it, from a study of early American history, such facts as will show

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the progress made in agriculture, horticulture, farming, forestry and the conservation of natural and cultivated resources. Some very startling discoveries will be made in the course of this study and some very hopeful signs. We have reached a point now, where everyone's duty is to become well informed as to the sources of the world's food-supply, and measures to increase and conserve it.

SUGGESTIONS

1. Look up the meaning of *isothermal* and *isohyetal*.
2. Consult the Century Dictionary under the words *palmer* and *palmer-worm*.
3. Turn to the Bible under Joel 1:4 and 2:25, also Amos 4:9, for further references to *palmer-worms*.
4. What is a *tineid moth?* What harm does it do to apple-trees in June? What is its larval form?
5. See, also, in Century Dictionary cuts under *corn-moth* and *bear* [section 6, cut of common yellow *bear-moth* in its larval stage].
6. Study the most common insect pests of our gardens and grain-fields; learn whether they are native (indigenous) or introduced, and, also, what species of birds destroy them.
7. Which grains are native and which are introduced?
8. Why is corn of unusual value and usefulness in the United States?

The following lesson on the Blue Jay is an admirable outline to take up at this season. Similar lessons have preceded this and it would be well to refer to them again as well as to work out some lessons of your own. With the bulletins which are available through the federal and state Departments of Agriculture, no one need be at a loss to determine the common insect pests of this country. Make a special effort to correlate bird-study with the study of insects and vegetation. May every home-gardener succeed this season and every home-garden yield a store of knowledge as well as of food!—A. H. W.

Suggestive Lessons in Bird-Study

THE BLUE JAY

By WILLIAM GOULD VINAL
The Rhode Island Normal School

1. FIELD OBSERVATIONS

There is only one practical use to which you can put these suggestions. Make them the purpose for wood excursions, not for the class, but for individuals and small groups. No one should try to teach what he does not know, but there is a great deal about a Blue Jay that one can know. You must catch the spirit before the lesson, and a single excursion into the woods of autumn or winter will give it, for the Blue Jay is a permanent resident. You ought to hear his notes ring through the silence of the October frost! Stand still and see if you can discover his business.

1. In what sort of a locality do you discover him?
2. Describe his method of flight.
3. Does he walk or hop?
4. What does he eat?

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5. How do the other birds like him?
6. How does the Jay break off an acorn?
7. How does he open the acorn?
8. Where does he hide the acorns?

[Birds' nests are more easily found in winter than in summer, and this is really the time to study them, as one can collect and observe them carefully without disturbing the tenants.]

9. Where do you find the Blue Jay's nest?
10. In what kind of a tree?
11. How high is it from the ground?
12. Where is it in the tree, on a branch or in a fork?
13. Is the nest easy to find? Why?
14. Of what material is it built?
15. How is the material arranged?
16. What holds the nest together?
17. In the spring try to find a Blue Jay building his home. Do both parents work at the nest-building?
18. When do they commence to build their nest?
19. How does the Jay get twigs?
20. Where are the twigs obtained and how carried to the nest?

This is a kind of nature-test. It differs from most school studies in that the test comes right at the beginning of the subject. It is a test of the power to observe nature. Again, it gives the child an experience of his own. He has something interesting for conversation. His own experience is really the only kind of a subject for him to write about. It gives him an opportunity for self-expression, something different from the phonograph method by which someone else's ideas are repeated. Do not let him put on smoked glasses or stuff cotton into his ears after he has observed these twenty points. It would be like planting twenty seeds in a garden and never looking at them again. Some naturalists have been observing the Blue Jay for fourscore years or more, and there are still new Blue Jay sounds and tricks to hear and see. Here, again, is the difference between book-study and nature-study. A test in the former ends the study, but in the latter it is simply opening the way for a lifelong examination, besides being a great deal more fun. By the latter method, one's failures are not proclaimed, and his successes are a point in pedagogy for other subjects.

2. BLUE JAY EXPERIENCES. (A Character Study)

As I do not know the Blue Jay experiences of other people, I shall have to tell about mine. They started on a farm in South Scituate, Mass. The Blue Jays were stealing the corn, and that was an unpardonable sin on the farm. There are four more chapters of this story of which I will simply give the titles: An Old Shot Gun; Concealed in the Bushes; Imitations of the Blue Jay's Call; A Dead Blue Jay. This paragraph would not have to be written had I been given the opportunities that boys and girls have to-day for bird-study.

Right here I want to say that I do not belittle the opportunities of the farm. One has to *know things* to succeed on the farm. He must plant, harvest, prepare, and use. In the city it is a little money, a store, and a can-opener. If the city boy or girl wishes to share in the experience of the great out-of-doors, he only needs to step into the parks and use his senses. Thus he may acquire some real knowledge by observation, a fundamental principle in education.

As a farmer-boy I knew the Blue Jay, his haunts and his failings, and could call him

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to any tree. What I needed was a teacher, someone to organize, direct, and guide (not stuff) my observations.

The next notable Blue Jay experience that I recall was when I had a class on a field-trip. We went to a field to watch some Purple Grackles. One of the Grackles flew to a large elm tree, carrying a white grub which he had excavated from the ground. Just as the Grackle landed, a Blue Jay flew down, snatched the grub, and flew to another limb, where it proceeded to beat the worm against the tree. When this juicy morsel had been devoured, the Jay flew again, this time to where its nest was located. This whole picture was run off in about two minutes. The incident showed the thieving instincts and "cheek" of the bird, but at the same time his fondness for grubs. We had his character in a nutshell.

The Blue Jay is also a big tease, at times a bully. The house across the street has a picket fence along the side of the lawn. One day in the fall we saw a cat sitting peacefully on the upper ledge of the fence. Suddenly, two Blue Jays appeared on the scene.

A CANADA JAY'S CALLER
Photographed by Mr. Wm. G. Vinal

They flew back of the cat and perched three or four feet away, from time to time swooping down at it, being perhaps within a foot above it. The starting-point was a maple tree that shaded the fence. Now and then the birds would call *jay-jay-jay*. The whole performance seemed to be a game, and was seen at two different times and several months apart.

In September, 1916, I went on a trip to New Brunswick. It was a 'camera hunt,' which is much more fun than shooting with a gun. The cruise led twenty-four miles from the nearest house and settlement, right into the woods on the headwaters of the Miramichi. Our party found quarters at an old abandoned lumber camp. On a fishing-trip up the Little Dungavon one day, we cooked our noon meal at the junction of two streams. From our cornmeal allowance we had made some bannock. It was considered rather valuable, since we had 'toted' our provisions on our backs, carrying enough

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for a week which is quite a lug. I had forded one of the streams to get some dry wood for the fire, and, upon turning toward the place where our provisions were spread out, I saw a bird making away with our golden bannock. I decided that if it tasted as good to the bird as it did to me, he would return, so I hid in the tall grass and focussed my camera on a tin cup which held the disputed food. I did not have to wait long before he came back. Without following even woodsman etiquette, this feathered messmate tried to stand on the rim of the cup, which upset both of our plans, blurring the picture I tried to make. Such little unexpected or unplanned incidents, however, only add to the excitement. This was the first time that I had ever seen the bird, but I remembered its picture and knew that it was the Canada Jay. On returning to civilization (?) we learned that the lumbermen call it the Moose-bird. In some parts it is called Meat Hawk, Carrion-bird or Whiskey-Jack. Kennicott suggests that its Indian name, Wiss-ka-chon, was probably contorted into Whiskey-John and thence to Whiskey-Jack.

Many of the strange noises we heard in camp, near sundown, were undoubtedly not bears or wildcats but the Moose-bird. We later made friends at camp. I would place bait on one of the lumber-camp stools and sit eight feet away on another, ready to shoot with the camera. As the picture shows, the bird had no fear of the revolver. The bird ate a little and then would carry off a large piece. He gave a sort of whining tone as he returned from one tree and then another.

Picking up an acquaintance with city Blue Jays is easier than one would suppose. Last spring one sunflower seed was planted near our grape-arbor. The Blue Jays came regularly to get the sunflower seeds. To take a picture I placed the camera near the grape-arbor and had a thread leading into the house. When the Jays came I pulled the thread. Next year we plan to have a row of sunflowers by the arbor for the Blue Jays.

My last experience was in a Providence park, while taking the picture of a Blue Jay's nest. An old gate was used for a ladder, and after I had climbed up into the tree, a Jay came and perched overhead. Soon I saw another Jay coming down the path. Both Jays had a sort of military bearing, with their blue uniforms, white collars, and black belts. The patrol of the branches, however, was more alert than his mate below, and I was not called upon to explain my presence in the tree.

3. BLUE JAY ECONOMICS. (Debit and Credit Account)

My early impression of Jay morals was that they were not as 'true blue' as the bird's dress. I am not so sure now but what the Jay had a right to some of the corn. Audubon pictures a Jay sucking an egg and writes: "I have seen it go its round from one nest to another every day, and suck the newly laid eggs." Barrows, however, in 'Michigan Bird-life,' says that these robberies are restricted to particular Jays and are not general. Forbush, in 'Useful Birds and Their Protection' says that "Jays eat the eggs of the tent caterpillar moth and the larvæ of the gipsy moth and other hairy caterpillars." He concludes that it should not be allowed to increase at the expense of smaller birds. Prof. F. E. L. Beal, in the bulletin entitled, 'The Blue Jay and its Food' (published by U. S. Department of Agriculture), says: "Jays do not eat the seeds of the poison ivy (*Rhus radicans*) or poison sumac (*Rhus vernix*)." The Blue Jay helps in forestation by planting seeds of various trees, such as nuts and the like. Thus, on the whole, and aside from the enjoyment we get from his beautiful color, his neighborliness and cheery call, we may say that there is a great deal to be added to his credit account, and that he is a good friend to man.

4. THE BLUE JAY IN LITERATURE

What facts do the different poets tell us about the Blue Jay?
Could you appreciate what they write if you had not heard and seen the Jay?

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Pick out the words that describe him.
This is what a few writers think the Jay says:

Flagg: *Dilly-lily.*
Hoffman: *Djay djay, tee-ar tee-ar teerr, too-wheedle too-wheedle,* which suggests the creaking of a wheelbarrow.
Matthews: *J-aa-y j-aa-y, ge-rul-lup, ge-rul-lup, heigh-ho.*
Samuels: *Wheeo-wheeo-wheeo.*
Seton: *Sir-roo-lle, sir-roo-lle, sir-roo-lle.*

"Blue Jay,
Clad in blue with snow-white trimmings."
—FRANK BOLLES.

The Blue Jay
"Blows the trumpet of winter."
—THOREAU.

"The brazen trump of the impatient Jay."
—THOREAU.

"The Robin and the Wren are flown, but from the shrub the Jay,
And from the wood-top calls the Crow through all the gloomy day."
—BRYANT.

"Proud of cerulean stains
From heaven's unsullied arch purloined,
The Jay screams hoarse."
—GISBORNE.

"He who makes his native wood
Resound his screaming, harsh and rude,
Continuously the season through;
Though scarce his painted wing you'll view
With sable barred, and white and grey,
And varied crest, the lonely Jay!"
—BISHOP MANT.

FOR AND FROM ADULT AND YOUNG OBSERVERS

COMMUNICATION FROM CANADA

Would you care to hear from a rural school in Ontario which, through a circular received from the United States, got into touch with the Audubon Association and has now a very interesting Junior Audubon Society?

We began our meetings in the spring of 1916, using the leaflet supplied when in the classroom, and following our own bird friends when time and weather permitted working outside. All the pupils in the school who were old enough (twenty-six) became members, but we had a faithful and interesting following among the younger pupils.

Last spring we held a meeting in our classroom, to which parents and friends were invited. The room was decorated with evergreens, bird-houses, a collection of nests made in the late fall, and our colored bird-pictures.

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The program consisted of solos and duets, both vocal and instrumental, choruses, readings, and an address by our president (a boy of thirteen), outlining the nature of our Society and the work covered. Several pupils had colored the drawings provided with the leaflets, and prizes were given publicly for the three best.

The parents and friends have, as a result, taken more interest in us and the subjects of our study.

Our 1917–18 meetings have proved more enjoyable than those of the previous year, and we are planning a public meeting for this coming spring which we feel sure will add to the interest taken in our feathered friends.

As teacher of the school I very much appreciate BIRD-LORE. The children find it most interesting.—AMELIA LEAR, *Courtice, Ontario, Can.*

[The writer of this admirable report says: "In many ways I feel a stranger to the Association (Audubon) and its ideals, but hope to become better acquainted by the close of 1918." It has been suggested before in this Department that an exchange of greetings and reports of work and common interests of study between schools in this country and other countries would be helpful and especially stimulating. Will some Junior Audubon Society in the United States enter into correspondence with the school in Courtice?—A. H. W.]

NESTLING CHIPPING SPARROWS

Some Chippy Sparrows built their nest in a potted tree next to the house, and a few weeks ago they flew from the nest. It was in the morning, and as I walked past their nest out they flopped.

I was afraid they would be hurt or even killed but they were not. I then sat down to watch them. One of them hopped up into my lap and as it seemed so tame I had its picture taken with the other two. There were four in all, but we could not find the other one. The one that sat on my finger was so tame that I could feed it bits of bread.

When I went in I set it down in the shade of a bush, and when I came back it was gone.—HELEN GREW.

[It is characteristic of many young nestlings which are just ready to fly that a slight disturbance will cause them to spring prematurely out of the nest. When this occurs, it is an extremely difficult matter to return them to the nest, but it is often possible by patient care to place the nestlings where the parents can easily find and feed them. A young Baltimore Oriole was picked up and brought to the writer recently, and although quite a distance from the place where it was found, it was returned to a bough near the spot where it was first discovered and after twenty minutes of "cheeping" on the part of the little orphan, the male bird arrived with food.—A. H. W.]

INTERESTING EXPERIENCES

I thought that you might be interested to know how a female Red-eyed Vireo once proved to me her courage and devotion.

I was out one afternoon with a party, assembled for the purpose of study-

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ing birds, when we ran across the Vireo's nest, about five feet from the ground in a small tree. We moved a little closer, and focused our glasses upon the bird, and there she was sitting upon the nest. The leader of the party moved still further toward the tree, and although he did not wish to frighten or disturb her, he did want to test her courage. I do not believe that he was more than twelve inches from her before she flew away. Her courage, in my mind, was remarkable, and the sense of duty which she showed in guarding and caring for those eggs is a good lesson by which human beings may profit.

Just the other day I witnessed a sight about which I have often read.

The leader of the party about which I have just spoken called my attention to a female Oven-bird in the grass near where we stood. Upon approaching she flew away, keeping about a foot from the ground and spreading her right wing while she did so. I was then informed that she was making out to be wounded, so that we should follow her and so draw our attention from her young ones. Sure enough, there were the young birds in the grass, with only a few feathers on.

It is interesting to note such incidents as these, and I think that one can have great success in observing birds with a bird-bath. I simply purchased a large, inexpensive pan, and put it in a place which I had dug in the ground to fit it. Then I sprinkled a little gravel in the bottom, put a few stones around the edge, and filled it with water. I had fixed the pan so that one end was shallower than the other. Soon I observed the birds bathing in it. They would very timidly hop first upon the stones on the edge, and then, gradually becoming more courageous, they would plunge into the water. It is very amusing when a particularly large Robin takes a very long bath and uses the whole tub, splashing about, while four or five smaller birds are impatiently waiting on the edge for this most important individual to complete its toilet.—W. W. Hall, Jr. (Age 13 years), *Buckhill Falls, Pa.*

[It is always a pleasure to receive observations which have been made at first-hand in the true spirit of inquiry. Concerning the fear of brooding birds, Mr. Herrick explains to us in his study of the 'Home Life of Wild Birds,' the different stages of timidity and courage through which parent birds pass while nesting. In studying the habits of birds always be careful not to disturb birds which are about to nest or which are just beginning to brood. Later, as they become more attached to the nest and eggs, they usually show less fear.—A. H. W.]

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SLATE-COLORED JUNCO

By T. GILBERT PEARSON

The National Association of Audubon Societies

EDUCATIONAL LEAFLET NO. 96

THE coming of autumn brings many changes in the bird world. The Orioles and Tanagers depart. The Warblers leave and other familiar birds of summer disappear.

Then comes the White-throated Sparrow, the Tree Sparrow, the Sapsucker, and other visitors from the North. Among these new arrivals, but not the first to appear, is the Slate-colored Junco. In thousands of dooryards they are rarely seen until the first fall of snow. Upon looking out of the window some morning one may see a dozen or more little birds flying about in the shrubbery or hopping around the doorway, looking for seeds or stray crumbs. Other small birds have this habit at times, but by the following signs you may know the Junco:

It is very nearly the size of an English Sparrow, with this difference, its body is not so large and its tail is slightly longer. Its general color is dark gray, except the belly, which is white. The bill is flesh-color, and when it flies white feathers are shown at the sides of the tail. This description fits no other bird. Bear these points in mind, and you cannot miss recognizing the Junco when he comes to visit you.

This little bird of the winter has many friends. Coming as it does at a season when other birds are few, and visiting the dooryard, as it frequently does, there is small wonder that many people know it and hail with pleasure its appearance from year to year. 'Snowbird' it is often called.

After the summer birds, and the migrants that are with us only for a time, have departed, and the bird-life has settled down to the usual scant winter population, the Juncos appear more in evidence than when they first arrived late in September. Then you will find them associated in flocks numbering from ten to fifty or more along the roadside skirted by thickets or in overgrown fence corners. Fields grown up in shrubbery and the borders of woodlands are also favorite haunts for these small winter neighbors. Here you will see them hopping about on the ground or alighting on limbs or stakes. Always they seem to be in such places that upon the call of danger they can dart, by a short flight, into the friendly cover of shrubbery or trees.

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SLATE-COLORED JUNCO

Order—PASSERES
Genus—JUNCO
Family—FRINGILLIDÆ
Species—HYEMALIS

National Association of Audubon Societies

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As they feed they continually utter quiet little notes of contentment, which, upon being alarmed, change to sharp hissing sounds that I have known people to think were caused by the bird snapping its bill.

Like all birds that spend the winter where snows fall, there come times when these Juncos are hard pressed for food, and probably never a winter passes without many of them dying from exposure and lack of food. Thus one may see very good reason exists why people should put food where they can readily find it. These birds will often eat bread-crumbs, but small seeds are what they prefer. The kind of bird seed one may buy at a store is good for hungry Juncos, but seeds raised in the garden will answer the purpose just as well. I will name some of them: sunflower seeds, poppy seeds, millet, oats, cracked wheat, and cracked corn will readily be taken by them. A little trouble and a very little expense is all that is necessary to tide the Juncos through a time of famine and keep them alive and well until better times arrive.

It should be borne in mind that all small birds are in constant danger of being captured and killed by Hawks, Owls, cats, and other creatures that prey upon them. When weak from lack of food, the little Junco is in poor condition to escape its enemies. I recall one February when snow fell heavily for two or three days and was followed by a sleet that left a crust over the top of the snow; also it broke down and buried the weed-stalks which still held their store of seeds. Throughout the whole country there was practically no food for the Junco.

One evening, upon returning late to the house, I caught sight of a small bird that flew up to roost on the top of one of the pillars supporting the wide veranda of my home. On the little projection, perhaps three inches wide and protected from the wind, it crouched down to spend the night. An hour later I came out with a light and approached close enough to see that my little visitor was a Junco. I put some cracked wheat on the wide veranda railing close by and hoped the bird would find it when it awoke in the morning, but the wind increased in violence and more sleet fell during the night, so I am sure not a grain of it was left for our little visitor when he opened his eyes at daylight.

It so chanced that the next evening, just as I came up the steps, the Junco alighted on the veranda railing and attempted to fly up to the top of the pillar, but it was now so weak that it was unable to gain its perch, and fell to the floor. Cautiously I advanced, thinking to secure the bird and feed it in the house. It flew out in the yard, however, and was soon lost in some low shrubbery. The next morning its feathers were scattered over the veranda. A cat had caught it and brought it there to eat.

John James Audubon, writing of the Junco as he knew it in Louisiana, said:

"Although the Snow-birds live in little families consisting of twenty, thirty, or more individuals, they seem always inclined to keep up a certain degree of etiquette among themselves, and will not suffer one of their kind, or indeed any other bird, to come into immediate contact with them. To prevent intrusions

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of this kind, when a stranger comes too near, their little bills are instantly opened, their wings are extended, their eyes are seen to sparkle, and they emit a repelling sound peculiar to themselves on such occasions.

"They are aware of the advantages to be derived by them from larger birds scratching the earth, and in some degree keep company with Partridges, Wild Turkeys, and even Squirrels, for the purpose of picking up such food as these animals may deem beneath their notice. This habit is more easily observed in those which frequent the farm-yards, where the domestic fowls prove regular purveyors to them. The report of a gun, or the unexpected barking of a dog,

JUNCOS FEEDING ON WINDOW-SHELF
Wyncote (Pa.) Bird Club

causes the little flock to rise and perch, either on the fences or on an adjoining tree, where, however, they remain only for a few minutes, after which they return to their avocations. They are particularly fond of grass-seeds, to procure which they often leap up from the ground and dexterously seize the bending panicles.

"It is a true hopping bird, and performs its little leaps without the least appearance of moving either feet or legs, in which circumstance it resembles the Sparrows. Another of its habits, also indicative of affinity to these birds, is its resorting at night, during cold weather, to stacks of corn or hay, in which it forms a hole that affords a snug retreat during the continuance of such weather, or its recurrence through the winter. In fine weather, however, it prefers the evergreen foliage of the holly, the cedar, or low pines, among which to roost. Its flight is easy, and as spring approaches, the males chase each other on wing,

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when their tails being fully expanded, the white and black colours displayed in them present a quite remarkable contrast.

"The migration of these birds is performed by night, as they are seen in a district one day, and have disappeared the next. Early in March, the Snowbird is scarcely to be seen in Louisiana, but may be followed, as the season advances, retreating towards the mountains of the middle districts, where many remain during the summer and breed."

Near the close of Audubon's narrative he makes this significant statement:

"Their flesh is extremely delicate and juicy, and on this account small strings of them are frequently seen in the New Orleans market, during the short period of their sojourn in that district."

This, of course, was written many years before the Audubon Law, which protects these birds, was enacted by the legislature of Louisiana.

The Junco passes the winter in suitable locations throughout eastern United States from the Gulf of Mexico on the south to southern Canada on the north. In summer it is distributed generally from New England northward thruughout Canada as far west as Alaska. They also breed in the upper parts of the Catskill Mountains and along the ridge of the Appalachian Mountains south to Georgia. On many of the mountains of western North Carolina I have found these birds a most abundant species in summer. In fact on some of the mountains one may encounter more Snowbirds on a day's tramp than all other species combined. Blueberries are very common in these mountains, and in summer the Snowbird varies its usual diet of insects with these wild fruits.

The nest is built in a depression in the ground, often on the side of some little bank or among the mingled roots and sod of an upturned tree. If, during the summer, one comes upon a Junco with a little worm or the larvæ of some insect in its bill, he need only wait a few minutes and the bird will probably betray its nest by going to feed its young. I have often had this experience. In fact, the Snowbird's nest has been, for me, one of the easiest to find. In every instance I have found it by watching the birds going to it. The nest itself is usually well hidden, and the small amount of dried grass and moss of which it is composed blends so well with the surroundings that one would hardly expect to discover the little cradle with its four or five speckled eggs or young.

In the spring the Junco has a song. It is not very loud and is not very long, but hearing it, as one usually does, when few other birds are giving voice to their happiness, it makes a strong appeal to the ear of the bird-lover.

The Slate-colored Junco (*Junco hyemalis*) is the common Junco with which most people are acquainted. In the southern Alleghany Mountains, and breeding as far south as northern Georgia, there is a race of Juncos (*J. h. carolinensis*) that is slightly larger and its markings are a little different from the common Junco. Still another race, the Montana Junco (*J. h. montanus*), is found in the Rocky Mountains, breeding from southern Alberta to Idaho and passing the winter in Arizona, Texas, and Mexico.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

A SUMMER OUTING FOR BIRD-STUDY

Our readers have noted, from time to time, mentions of the progress of our new Experiment Station in applied ornithology at Amston, Conn., where research work is conducted in attracting, protecting, and increasing wild birds, and in the propagation of the so-called game species and wild water-fowl. This summer, further experiment will be tried, a combination of educational and recreational lines.

This great estate, owned by Charles M. Ams, and representing an investment of over a quarter of a million dollars, covers three square miles of beautiful country, a charming glacial lake over a mile long, with good boating, bathing, and fishing. Bird-life is varied and abundant. Many bird-boxes are occupied by Bluebirds, Tree Swallows, Wrens, and other species. There is a convenient breeding colony of the rather rare Henslow's Sparrow near one of Bank Swallows. Herons and wild Ducks frequent the lake, and last summer there was on the latter an old white-headed Bald Eagle.

Mr. Ams, who is a Life Member of the Association, and is willing to share the pleasure of his estate with the reputable fraternity of bird-lovers, has given to the Association the use of the Audubon House as headquarters, and has equipped Amston Inn on the property, where guests can be cared for. Last summer, visitors were informally received and shown about by Herbert K. Job, who is in charge of the work, residing for the season at the Audubon House with an assistant.

This season, Mr. Job, with his family, will reopen the Audubon House about June 1, for the entire summer. The Inn will also be open, at a uniform rate of $2 per day for room and board, or 75 cents for a single meal. At the Audubon House are collections of mounted birds and bird-skins for study and reference, also a small working ornithological library. Visitors are invited to make use of these and of the Audubon House for study or social purposes. Work in attracting birds, and the breeding and rearing of many kinds of game-birds will be under way. The water-fowl pond, with some fifteen species, gives unusual opportunity to study native wild Ducks. Visitors for the day or for stay at the Inn are welcome, and will be shown the work.

Beginning on Saturday, July 6, a definite Summer School session will open, with classes and evening lectures by specialists. The formal session will con-

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tinue three weeks, and courses are offered in general bird-study, applied ornithology and field photography.

A moderate charge will be made, uniform for all, and students may take one or all the courses, and be admitted without further charge to all lectures. The Inn is simple and unpretentious, the rooms small, but everything is fresh and neat, and the food is good. A prospectus with full detail will be furnished on application, either to the Association at 1974 Broadway, New York City, or to Mr. Job at West Haven, Conn.

STINKING LAKE A BIRD SANCTUARY

The long fight to end the killing of wild fowl on Stinking Lake, and thus make of it a bird sanctuary, has been won! Stinking Lake is located in northern New Mexico, and, for hundreds of miles in every direction, probably no region exists that harbors such a large number of breeding wild fowl in spring, or offers such opportunities for gunners in autumn.

Several years ago the United States Bureau of Biological Survey sent a representative there to study the bird-life, and the question at that time was brought up of making it a United States Federal Bird Reservation under the care of the Department of Agriculture. This was found inexpedient for the reason that the lake lay within the boundaries of the Jicarilla-Apache Indian Reservation, and therefore was not a part of the free public domain from which bird reservations have always been carved.

Last fall the matter was brought to a head by the action of a company of sportsmen, centering in Colorado Springs, and organized under the distinctly misleading title of the "Jicarilla Wild Game Sanctuary Association." This club took steps to secure from the Indian Service the exclusive shooting privileges on Stinking Lake. In return for this favor they offered to build a fence to keep the cattle away from the breeding-grounds of the birds, and employ a guard throughout the year. They were to shoot a month in the autumn (which meant the entire time of the fall shooting season until the lake freezes over), and they obligated themselves to shoot only twenty-five Ducks a day, which, we may add, is five more than the law of New Mexico allows.

The writer, after entering a protest with the Interior Department and receiving no satisfactory response, went to Washington and had a conference with Mr. Alexander T. Vogelsang, Assistant Secretary of the Interior, and the official who has oversight of several branches of the Interior Department work, including the Indian Service. To him was submitted a request that the lake be not leased, and that, using his authority, he should prohibit all shooting on the lake. It was found, however, that he had been so thoroughly convinced of the philanthropic intentions of these Colorado sportsmen that he had already given his consent for the leasing of the lake to them.

After an extended visit, during which certain facts, with which he was more or less unfamiliar, were drawn to his attention, he readily agreed to reopen the case. Later, he stated that, upon reflection, he had changed his former position in the matter, and, as requested by the Audubon Association, would in future allow no one to shoot on this territory. He asked the writer to make suggestions relative to the season and bag-limit, which the Indian Service could insert into regulations regarding shooting on other small bodies of water within the boundaries of this Indian Reservation. This request was, of course, promptly complied with.

In the meantime, pressure continued to be brought to bear on the Interior Department from the West. The Jicarilla Wild Game Sanctuary Association sent a representative from Colorado on at least two occasions to plead their cause. The State Game Warden and another state official from New Mexico visited Wash-

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ington and worked toward the same end.

On March 29, 1918, there was filed with the Indian Service the following memorandum:

"WHEREAS, The Jicarilla Wild Game Sanctuary Association has submitted to the Bureau of Indian Affairs a proposed lease for the Stinking Lake in the State of New Mexico, and,

"WHEREAS, Protests have been filed against the granting of said lease; and,

"WHEREAS, Pending the controversy which has arisen, no action has been taken by said bureau relative to said lease; and,

"WHEREAS, an adjustment and compromise has been reached by all interests heretofore opposed to the granting of said lease, and concerned therewith; and,

"WHEREAS, The undersigned, H. L. Hall, is the duly authorized representative of the Chama Rod and Gun Club; and,

"WHEREAS, The undersigned Theodore Rouault is the duly appointed, qualified, and acting Game Warden of the State of New Mexico, and the duly authorized representative of the New Mexico Game Protective Association; and,

"WHEREAS, Francis Gilpin is the duly authorized representative of the Jicarilla Association; and,

"WHEREAS, The above-named persons are the duly authorized representatives of all the interests concerned in the matter of said lease and desire to submit the adjustment which they have reached in connection therewith; now,

"Therefore, the said representatives herewith submit for the consideration of said bureau a form of lease which has been agreed upon between them, and for which favorable consideration is most earnestly and respectfully requested.

(Signed) F. GILPIN
H. L. HALL
THEODORE ROUAULT, JR."

The above statements were not correct in at least one particular, as the National Association of Audubon Societies had not withdrawn its opposition, and these gentlemen were so informed.

Mr. Gilpin came to New York for a conference with the writer in the hope that the one remaining obstacle might be removed. He proved to be a very broad-minded gentleman, greatly interested in conservation, and in the end stated that if he could not secure this concession from the Government he was quite willing to contribute toward the maintenance of the warden which the Audubon Association hopes soon to see placed on Stinking Lake.

After this the end came speedily. Mr. Cato Sells, Commissioner of Indian Affairs, under date of May 2, 1918, wrote the following letter:

My dear Mr. Pearson:

This will refer further to the question of granting a permit to the Jicarilla Wild Game Sanctuary Association for the privilege of establishing a shooting preserve on Stinking Lake, on the Jicarilla Indian Reservation.

I have carefully considered this matter, and, in view of the circumstances, I do not deem it advisable to permit any shooting whatever on Stinking Lake, and have accordingly notified the Superintendent. There is enclosed a copy of instructions to the Superintendent as to the steps to be taken with regard to the granting of shooting privileges on other lakes on this reservation.

The letter of instructions to which he refers follows:

Mr. Chester E. Faris,
Supt. Jicarilla Agency.

My dear Mr. Faris:

The question of granting a permit to the Jicarilla Wild Game Sanctuary Association for the privilege of establishing a shooting preserve on Stinking Lake has been carefully considered, and it has been decided to deny the privilege requested by that Association.

In view of the exceptional natural advantages afforded for the breeding of wild birds on Stinking Lake, I do not deem it advisable to permit any shooting whatever on this lake, and you are hereby directed to prohibit all shooting, either by whites or Indians, and you are requested to exercise every precaution to enforce this ruling.

You are hereby authorized to grant permits to responsible parties for shooting privileges *on other lakes* on the reservation, such shooting to conform with the Federal law as to the season for shooting birds, and to conform with the State Law in respect to the bag-limit which may be taken. It is not deemed advisable to grant any preferred privileges to any parties or associations in the premises.

In this connection you are requested to submit your views and recommendations

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as to the promulgation of regulations which may be deemed suitable for the governing of the shooting privileges under permits to be issued by you as instructed above.

Sincerely yours,
(Signed) CATO SELLS, *Commissioner.*
Approved: April 30, 1918.
Alexander T. Vogelsang,
First Assistant Secretary.

The Biological Survey, ever helpful in such matters, already has a man on the ground trapping such predatory animals as are injurious to the breeding wild fowl and will, this summer, have a man investigating further the bird-life of the region.

Stinking Lake is now a bird sanctuary and is the only one of the first importance over a vast area of our southwestern country. Its value as a breeding-place for Ducks and as a haven of refuge for them during migration can hardly be overestimated.

A BIRD HOSPITAL

By DR. W. W. ARNOLD

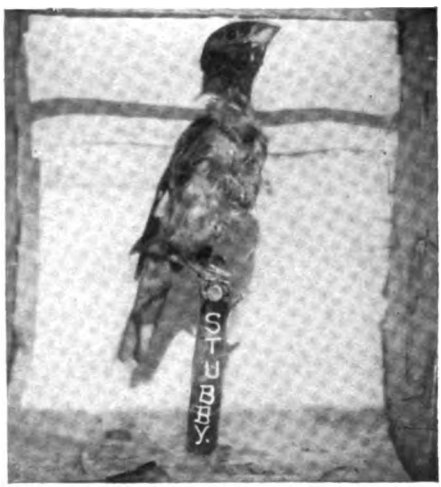
For a number of years my attention has been directed to the large numbers of maimed birds ever present here in Colorado Springs, and greatly augmented after the migratory waves of bird-life in the springtime and early autumn. That it was within my power to extend to these unfortunates a rescuing hand did not grasp my mind until one day a tender-hearted lassie brought to me a Nighthawk with a broken wing, and with tearful voice shot at me the question, "Doctor, can't you make this bird's broken wing well just as you do the broken arms of the little boys and girls?" This opened a door into a new world in which I have now been reveling for several years, deluged with delights and surprises foreign to ordinary mortals, and solving the mystery of eternal youth.

A commodious aviary was erected, answering the purposes of a general hospital, where the aërial voyagers, arrested in their journeys to and fro across the country by some unfortunate accident, are cared for as tenderly as though so many children. When recovered from their disabilities, these feathered patients are given their liberty, returning to their accustomed haunts in life, and taking up again their numerous activities in behalf of the welfare and happiness of mankind.

These feathered patients very quickly adjust themselves to the novelty of the shut-in life of the hospital, and, by the time the repair processes are completed, have become contented and gentle.

The intimate relationship established with the birds, while ministering to the relief of their various disabilities, reveals phases and secrets of bird-life obtainable in no other way and flashing with constant surprises.

The varieties of feathered patients brought to the hospital represent about all the bird families of the Pikes Peak region,



STUBBY, A BLACK-HEADED GROSBEAK
Wing and leg broken by gunshot. Wing recovered, foot amputated. Has been in the hospital four or five years.

found in summer and winter, from the rare and fairylike Calliope Hummingbird, the common Tern, a rare visitor of the region, to the Raven and Golden Eagle.

A very satisfactory percentage of the injured birds recover and are sent back

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WESTERN MEADOWLARK
Gunshot wound of wing. Recovered

ONE DAY'S WORK BY THE MURDEROUS CAT

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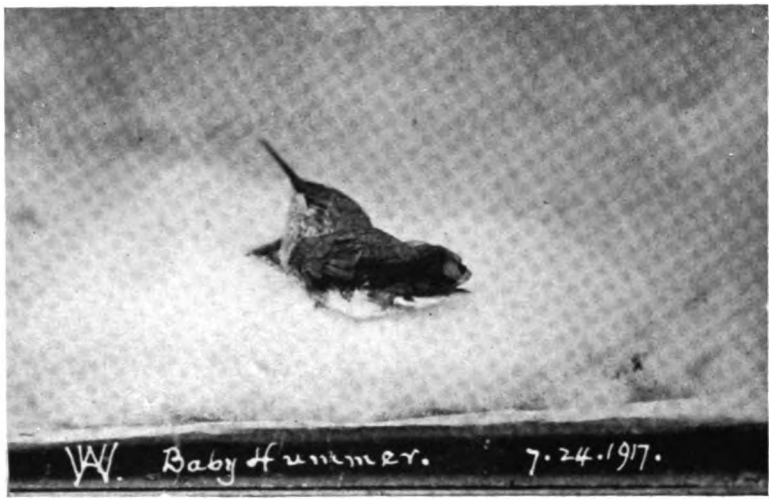
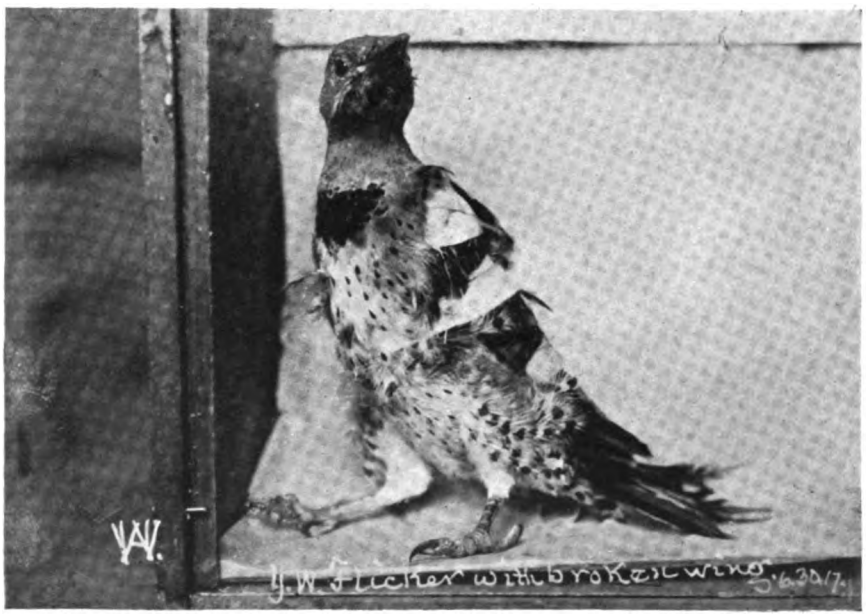


YOUNG CALLIOPE HUMMINGBIRD, THIRD RECORD FOR COLORADO. THE SMALLEST PATIENT



RED-SHAFTED FLICKER
Wing broken by contact with telephone wire. Recovered

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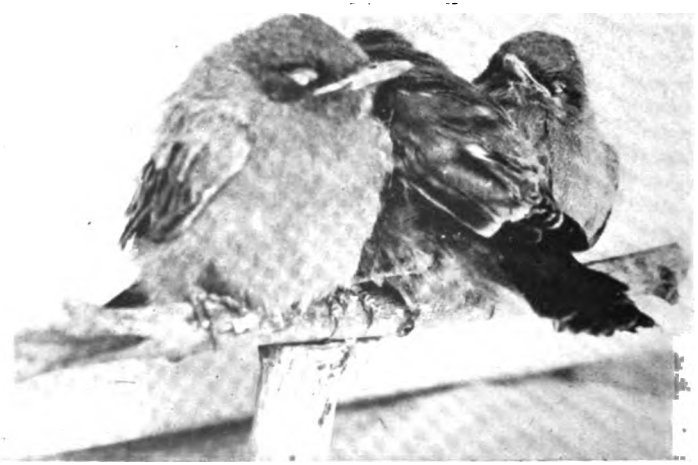
into their native haunts to resume their blessed services in behalf of their greatest enemy—man.

The task of collecting the unfortunate cripples is gladly assumed by the children of the city and adjacent regions, who bring to the hospital every disabled feathered brother found. I endeavor to show my appreciation of these humane services by visiting the schools, taking with me some of the recovered patients, and recounting their life histories to the children, thereby impressing upon the hearts of the children a tremendous interest in bird-life and a burning desire for its protection.

The character of this delightful work naturally brings us in contact with the lost darlings of the home nest in the spring and summer, so an orphanage was demanded and provided, where scores of fledglings are tenderly cared for during the season. This work of rescuing injured helpless birds from the claws and jaws of the heartless cat and the preferable ending of existence by starvation is my *recreation*, an antidote to *arteriosclerosis*, and has proven a mine of such inexhaustible pleasure that I am fain to recommend it to everyone seeking to round out his life in fullest measure of usefulness and enjoyment.

There should be hundreds of bird hospitals scattered over our beloved land, for millions of birds perish annually from accidents of different kinds, when a large percentage might be restored to normal condition if afforded care and treatment in one of these hospitals.

It is better, of course, that the conduct of the bird hospital should be in charge of a person familiar with minor surgery, but almost any intelligent boy or girl can quickly become proficient in the adjusting of broken wing- and leg-bones and in providing the food necessary and appropriate for the healthy sustenance of the different varieties of feathered patients. My records show an average of twenty-five or thirty patients on hand all the time, constantly augmented and decreased, according to the seasonal movements of the armies of birds.



THREE ORPHANED AND STARVED BABY PHOEBES

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TO STOP THE SALE OF GAME

An important bill is pending in Congress, having for its object the prohibition of the sale of game in the District of Columbia. It is rather a significant fact that, in more than forty states of the Union, restriction exists on the sale of native wild game. It is perfectly apparent to anyone that as long as there is an open market for Quail, Wild Turkeys, Woodcock, Prairie Chickens, and Wild Ducks, just so long will these various game-birds be hunted with the greatest energy by men who, as a class, have little regard for game laws, and whose desire is to make money by marketing the products of their skill with firearms.

Stopping the sale of game is therefore one of the most important principles involved in the subject of wild-life preservation. In Washington, however, game can be sold openly in the markets, much as it could throughout the country during those days when wild Pigeons used to be sold for six cents a dozen.

No congressman, it seems, has been sufficiently interested in the subject to introduce a bill in Congress to restrict this traffic. Recently, however, Representative Graham, of Illinois, launched such a bill. Much credit is due Mr. W. P. Bolton, of New York City, for his persistent efforts in behalf of this measure. On April 23, 1918, a hearing was given on the bill before the District of Columbia Committee. Among others who appeared in behalf of the bill was Herbert K. Job, representing the National Association. Reports of what took place that day all indicate that the Committee will shortly report the bill for favorable consideration.

Now the question is, will it be possible to get it up for a vote before Congress adjourns. With all the war measures crowded in for attention, there is a possibility that it may be side-tracked until another session of Congress. However, the bill will be pushed if necessary for years until success comes.

THE PENNSYLVANIA PLUMAGE LAW

A letter to "all licensed taxidermists in Pennsylvania," bearing the date of Feb. 15, 1918, has been issued by Dr. Joseph Kalbfus, Secretary of the Pennsylvania Board of Game Commissioners.

In this letter attention is called to a recent change in the laws of that state in reference to the sale of the plumage of wild birds. Under the old law the President of the Board of Game Commissioners had the right, at his discretion, to permit a taxidermist to sell mounted specimens of birds, whether legally or accidentally killed in that state. There was also no law against the sale of feathers of foreign birds, unless belonging to the same family as birds protected in the state. Dr. Kalbfus now serves notice that such sales, either by taxidermists or milliners, are no longer legal.

"The new law," he writes, "forbids the sale of feathers taken from wild birds, without qualification, so that at this time you would have no right to sell, or offer to sell, or have in possession for sale, a Crow, or a Hawk, or a Blue Jay, or a Kingfisher, or any other bird without first securing permission to do so by the President of the Board of Game Commissioners of Pennsylvania, and such permission will not be granted, except in instances where the Commonwealth itself may be benefited, as, for instance, a sale to a public museum, or to public schools, or for educational purposes."

The new law prohibits absolutely the sale of the feathers of all wild birds in Pennsylvania. The contention of Dr. Kalbfus, expressed in a personal letter, that this places Pennsylvania in the lead of all states in the Union in the matter of suppressing the feather traffic, most assuredly is borne out by the facts in the case.

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There was a time, before the National Association of Audubon Societies began its campaign to suppress the sale of feathers in Pennsylvania, when this state was a hotbed for the wholesale millinery interests of this country that had been driven out of New York state by the Audubon Law. This was not so many years ago either, and Pennsylvania is certainly to be congratulated on the advanced stand it has taken on the matter of bird protection. No small part of this is due to the long educational work of Dr. Kalbfus, who for nearly two decades has occupied his present position as Executive Officer of the Board of Game Commissioners of Pennsylvania.

Summer Schools for Bird-Study

The Association will coöperate with the following colleges and universities in presenting courses in bird-study during the summer of 1918:

Dr. Eugene Swope, of Cincinnati, Ohio, Field Agent for the Association, will give a four-weeks' course in bird-study at the University of Florida, located at Gainesville.

Dr. J. M. Johnson, of Brooklyn, will conduct a four-weeks' course at the Summer School of the South, Knoxville, Tenn.

Miss Belle Williams, of Columbia, S. C., will have her bird-work at the Winthrop Normal and Industrial College, Rock Hill, S. C., for a month.

Miss Mary Bacon, of Athens, Ga., will give a course in bird-study at the University of Georgia during the summer session, from July 1 to August 3.

Mr. Ralph Hubbard, of Boulder, Col., a member of the faculty of the University of Colorado, will give a course in bird-study again this year.

Mr. Edward Fleischer, of the Brooklyn Institute of Arts and Sciences, will teach bird-study in the Adelphi College, Brooklyn, during the summer session, from July 8 to August 16.

Mr. J. Bowie Fernehough, of Baltimore, will give the bird-course this summer at the University of Virginia, University P. O., Va.

Game-Law Enforcement in New York

The State Conservation Commission, with headquarters at Albany, during the present administration has been doing a wonderful work in its various lines of service. Particularly may be noted with satisfaction the energetic way in which it is enforcing all the bird- and game-protective laws.

Its accomplishments are brought forcefully to the attention of the public each month by the issuance of a bulletin containing a detailed account of all arrests for violation of the conservation laws, with the amount of fines paid where convictions resulted. By examining the one for March, 1918, for example, we find that there were 154 arrests and 127 convictions for the month. The fines paid in these cases amounted to something over $3,000.

The character of the offenses included illegal killing of deer, Pheasants, song-birds, fur-bearing animals, and rabbits. Others were for violating the fish laws. Those who have watched the fight to suppress the traffic in the feathers of wild birds will be interested in learning that the law against the sale of aigrettes is being rigidly enforced. During March there were six arrests for this offense, and convictions resulted in every case.

First State Cat Law

What is believed to be the first state law passed for restricting cats was recently enacted by the New York State Legislature.

The wording of this new statute is as follows:

Cats hunting or killing birds. Any person over the age of twenty-one years, who is the holder of a valid hunting and trapping license, may, and it shall be the duty of a game protector or other peace officer to humanely destroy a cat at large found hunting or killing any bird protected by law or with a dead bird of any species protected by law in its possession; and no

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action for damages shall be maintained for such killing.

"This act shall take effect immediately."

Another Bird Sanctuary

Mr. Frank Bond, of Washington, D. C., who for fifteen years or more has been an active member of the Audubon Society, and who by virtue of his position as Chief Clerk in the General Land Office has been able to exert great influence in the establishment of bird reservations, under date of April 4, 1918, forwarded to this office the following letter:

"I know you will be glad indeed to be advised that yesterday I received a letter from the office of the Engineering Bureau, Chief of the Ordnance, War Department, which stated:

" 'I am instructed by the Acting Chief of Ordnance to inform you that no hunting of birds or game of any kind is permitted on the United States reservation known as the Aberdeen Proving Ground in Hartford County, Maryland.

" 'The above prohibition on hunting was issued with the idea of accomplishing the results desired to be secured by you.'

"This, as you will understand, is action taken similar to that which was taken by the Panama Canal Commission. While it does not create a game or bird reservation, strictly speaking, the same purposes are accomplished I think, and we are to be congratulated upon our efforts in this direction."

A New Bird-Fountain

In recognition of the services rendered by our little feathered warriors, the Los Angeles Audubon Society, on April 18, 1918, unveiled and dedicated a handsome bird-fountain in the Exposition Park.

Mrs. F. T. Bicknell, president of the Society, in making the presentation to the birds, said: "The little warriors of the air are fighting for us against enemies as ruthless as the Kaiser." Continuing, Mrs. Bicknell said, in part:

"To our birds, divided into great battalions of battle against enemies of the crops, we make the first dedication. This fountain is for the use of the battalion which protects our wheat crops for the boys in France. It is for the battalion which guards the cotton crop which is used for surgical purposes and for gunwads. It is for the battalion which saves our forests from which we get the lumber to build great ships and air-planes.

"The birds have been officially recognized by the United States Government for their valuable aid to agriculture and horticulture. This fountain is placed here as our personal recognition of their value."

The fountain is made of artificial stone. It is five feet in height, with an octagonal base six feet in diameter. Two Pelicans are so moulded as to form the shaft support for the center basin.

The bowl is three inches deep and twenty-six inches in diameter. Within the bowl, as if just alighting, is an American Bittern with a tiny fish in its beak. The water flows from the mouth of the fish into the bowl and overflows into the octagonal basin, which is three-quarters of an inch deep and raised four inches from the ground.

Bird Day in South Carolina

The following proclamation has been issued by the Governor of South Carolina:

WHEREAS, May 5 is a popular day for Bird Day throughout the United States, and

WHEREAS, Science proves that insectivorous birds are the destroyers of noxious weeds and insects that injure our food and textile crops; experience proves that game-birds may be made a valuable adjunct to our food-supply; and sentiment proves that song-birds minister to our happiness, and

WHEREAS, It is especially important that we educate our children and protect our birds in order to foster our resources in time of war:

Now, therefore, I, Richard I. Manning, Governor of South Carolina, do hereby designate Monday, May 6, 1918 (since May 5 falls on Sunday) as Bird Day for the current year in South Carolina, and request the Superintendents and Teachers of the Public Schools of the State to observe said day and to devote it to the formation of Bird Clubs among the children of our schools for the purpose of co-operating with the State Game Department in the protection of these feathered friends of mankind.

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Given under my hand and the seal of the State this twenty-first day of April of the year 1918 A. D.

RICHARD I. MANNING,
Governor of South Carolina

"Bobbie in Birdland"

"We have just given with success the play 'Bobbie in Birdland.' Our costumes for this were especially effective. They were made by the Household Arts and Home Economics Department of our school, and they, together with the bird-notes made by our boys behind the scenes, made the birds seem very real. I wonder if there are not other Audubon Clubs which would like to rent these costumes in presenting the same play. Our town, which had never taken any very great interest in birds before, was thoroughly aroused on the subject. The children are all imitating the birds."

(Signed) MRS. F. C. BIVINS,
Durham, N. C.

NEW LIFE MEMBERS

Enrolled from March 1 to May 1, 1918

Adams, Joseph
Ainsworth, Mrs. H. A.
Bailey, Mrs. Charles
Ball, Miss Susan L.
Battles, Miss C. Elizabeth
Brownson, Mrs. Willard H.
Bushnell, Mrs. Harriet L.
Cate, Mrs. Isaac M.
Cooper, Mrs. Theresa B.
Dietz, Mrs. C. N.
Elser, Albert C.
Emerson, Mrs. G. D.
Fortmann, Henry F.
Garrett, Mrs. P. C.
Gelpcke, Miss A. C.
Gelpcke, Miss Marie
Gribbel, Mrs. John
Hamilton, Mrs. H. R.
Hamilton, Mrs. W. P.
Hansen, Miss Emilie L.
Henderson, William
Hubby, Miss Ella F.
Iselin, Mrs. C. Oliver
James, Ellerton
Lauder, Miss E. S.
Liesching, Bernhard
Loring, Miss Helen
McCormick, Mrs. R. T.
McKim, LeRoy
Minshall, Miss Helen
Morgan, J. P., Jr.
Mott, Mrs. John B.
Norrie, Mrs. E. L. Breese
Parsons, Mrs. J. D., Jr.
Perkins, Mrs. Gilman H.
Pope, Willard
Powers, Thomas H.
Procter, Mrs. Wm. C.
Rogers, Miss Julia
Sarmiento, Mrs. F. J.
Shepard, Mrs. Elizabeth D.
Short, William
Sloane, Henry T.
Smith, Francis D.
Strong, Mrs. J. R.
Velie, Charles D.
Whiting, Miss Gertrude.

During the same period there were also enrolled 154 new Sustaining Members and 12 new Contributors.

CONTRIBUTORS TO THE EGRET FUND

March 1 to May 1, 1918

Previously acknowledged	$1,600 65	Brown, T. Hassal	$10 00
Allen, Miss Edith H.	1 00	Browne and Nicholas Bird Club	18 20
Allen, Miss Mary P.	2 40	Campbell, Donald	3 00
Anonymous	435 00	Chittenden, Mrs. S. B.	2 00
Auchincloss, Mrs. E. S.	5 00	Christian, Miss Susan	10 00
Ayres, Miss Mary A.	5 00	Cohen, Judge William N.	5 00
Babson, Mrs. Caroline W.	1 00	Davis, Miss Lucy B.	3 00
Bainbridge, Mrs. M. H.	5 00	Detroit Bird Protecting Club	5 00
Barnes, R. Magoon	10 00	DeNormandie, James	5 00
Bates, Clifford L.	5 00	District of Columbia Audubon Society	50 00
Baxter, Miss Lucy W.	5 00	Douglass, Mrs. Charles	5 00
Bird Lovers' Club (Brooklyn)	2 00	Durham, J. E.	2 00
Bliss, Miss Lucy B.	4 00	Embury, Miss Emma C.	5 00
Bridge, Mrs. Lidian E.	10 00		

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Ewing, Mrs. H. E.	$2 00
Ferris, Miss Ida J.	1 00
Flint, Mrs. Alonzo	1 00
"Friend"	5 00
Gault, B. T.	2 00
Grasselli, Miss Josephine	2 00
Greene, A. E.	3 50
Gwalter, Mrs. H. L.	4 00
Hage, Daniel S.	1 00
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Hodenpyl, Anton G.	10 00
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Hungerford, Richard S.	10 00
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Savage, A. L.	5 00
Seattle Audubon Society	50 00
Shepard, Mrs. Elizabeth D.	50 00
Stanton, Mrs. T. G.	2 00
Struthers, Miss Mary S.	10 00
Tate, J. M., Jr.	1 00
Topliff, Miss Anna E.	5 00
Varicle, Miss Renée	2 00
Wadsworth, Mrs. W. Austin	5 00
Whitney, Thomas H.	5 00
Total	$2,641 25

Letters from Young Bird Students

The class is studying about birds. I will tell you how the bird I am thinking of looks. It is the Chicken Hawk. He is the color of the trees and you cannot see him very well. He makes a funny noise, and he keeps flying around in a ring by the chicken-coop and comes nearer every time he goes around. I would like to know how you are protecting the birds this year. —HAROLD WARNER, *Cleveland, Ohio.*

We have been studying about birds for three days. I know some winter birds. They are the Hawks, Sparrows, Snowbirds, Crows, Bluebirds, and Doves. I would like to know how you protect the birds in the winter. I have read in the *Press* a story of a Crow, and will now tell it to you.

There was a little girl who had a birthday. Her aunts gave her some books, and her father and mother gave her some nice gold beads. Then she was happy when she saw them and she laid them on the table and went out into the barn and while she was there the Crow hid them.—ELEANOR SMITH, *Cleveland, Ohio.*

For the last three days we have been studying about winter birds. I was talking about the Snowbird. Its wings and tail are black and its back is brown. Under its wings is a white patch and it has a red dot on its head. Will you please tell me how you take care of the winter birds? What is the Snowbird fed on? What do the Eagles, Sea Gulls, and Hawks get fed on and when will you have the next bird pictures out?—RAYMOND HAHNER, *Cleveland, Ohio.*

Many people think that birds have no love for each other, but they do. Once there were some birds and they were picking something from the ground, but one could not get anything because his bill was crossed and he was the biggest because the other one had fed him so well.

I would like to ask you a few questions about birds. What do you do to protect the birds? What kind have you? We have been studying about birds for three days and I am very much interested in them.—EDITH A. SCHEELY, *Cleveland, Ohio.*

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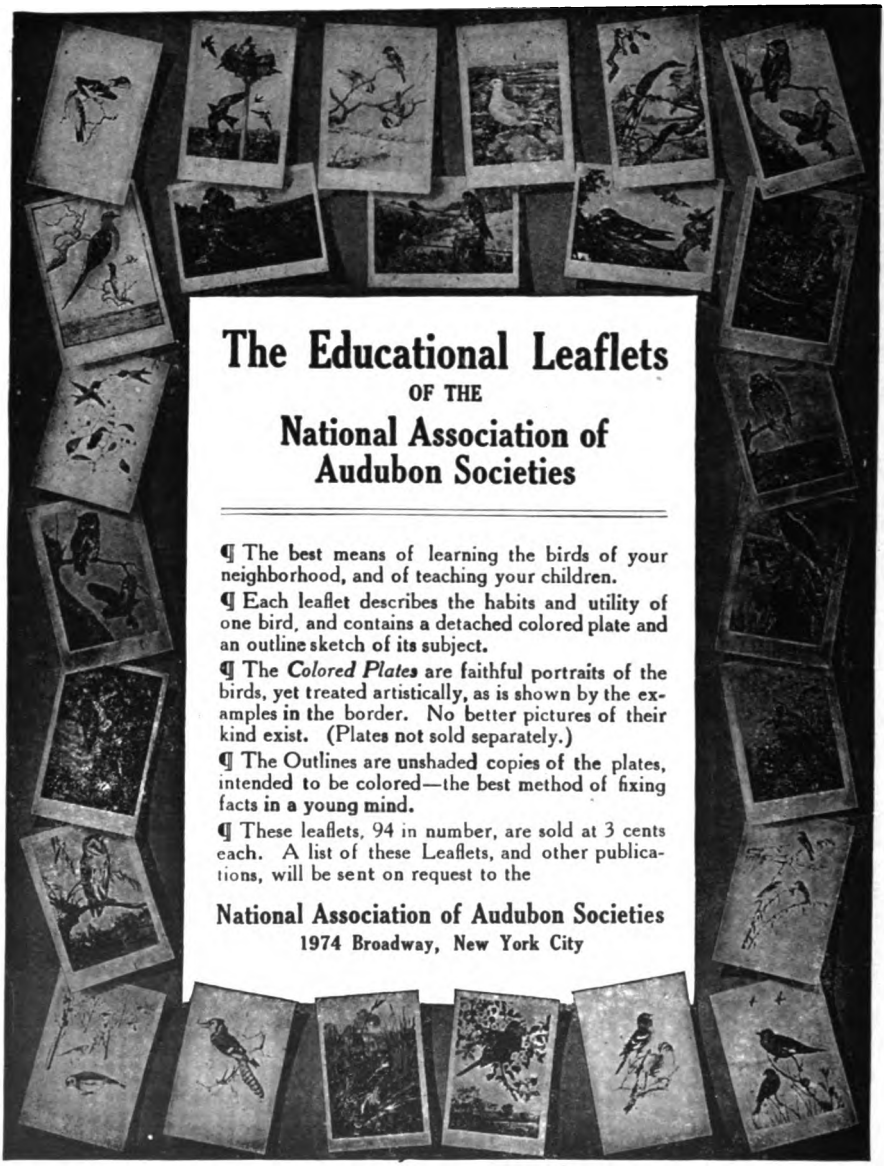

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Chapter
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III. First Flights
IV. The Birds' Air Line
V. The Birds' Time Table
VI. The Day Flyers
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Bird-Lore

July-August, 1918

CONTENTS

GENERAL ARTICLES PAGE

FRONTISPIECE IN COLOR. NORTHERN AND LOGGERHEAD SHRIKES. . . *Louis Agassiz Fuertes*

NOTES ON THE NESTING OF THE NASHVILLE WARBLER. Illustrated. . . . . *H. E. Tuttle*. . 269

THE BLUE JAY'S WHEATLESS DAY. Illustrated. . . . . *Ansel B. Miller*. . 272

HOW I MOTHERED A PAIR OF HUMMINGBIRDS. . . . . *P. Gregory Cartlidge*. . 273

THE BLACK-BILLED CUCKOO. Illustrated. . . . . *C. W. Leister*. . 277

BIRD-WALKS. . . . . *Charles B. Floyd*. . 279

SPOTTED SANDPIPER COLONIES. Illustrated. . . . . *J. W. Lippincott*. . 282

NIGHTHAWK LEAVING NEST. Illustrated 285

THE MIGRATION OF NORTH AMERICAN BIRDS. V. THE SHRIKES. . . . . *H. C. Oberholser*. . 286

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS. Illustrated. *Frank M. Chapman*. . 290

NOTES FROM FIELD AND STUDY 291

SUMMER RECORDS OF WINTER BIRDS IN THE UPPER PENINSULA OF MICHIGAN, *Ralph Beebe;* A SANTA BARBARA HUMMER, *Oscar R. Coast;* THE BLACK-CHINNED HUMMINGBIRD, *Ella Getchell;* BIRDS AND BEES, *John G. Parker;* THE 'STAKE-DRIVER' AGAIN, *Henry Turner Bailey;* A UNIQUE WREN NEST (Illus.), *Walter A. Goelitz;* THE BLUE JAY WILL MURDER, *G. S. Young;* WITH THE MARTINS IN FLOCKING-TIME; FLOCKING SWALLOWS (Illus.), *E. J. Sawyer;* SCENE FROM THE HOME-LIFE OF THE CHESTNUT-SIDED WARBLER (Illus.), *C. W. Leister;* THE BANDIT—A STREET SCENE FROM BIRDDOM, *C. Bonnig;* THE WREN, A HOUSE-BREAKER, *Mrs. Arthur F. Gardner;* A FAMILY OF BROWN THRASHERS (Illus.), *Mary Galloway;* THE LANGUAGE OF ROBINS, *Rose M. Egbert;* OUR SUMMER VISITORS, *Mrs. M. B. Des Brisay;* ROBIN NESTING ON THE GROUND, *Ansel B. Miller.*

THE SEASON. VIII. April 15 to June 15, 1918 302

Winsor M. Tyler; Julian K. Potter; Harry C. Oberholser; Thomas S. Roberts; W. H. Bergtold.

BOOK NEWS AND REVIEWS 307

TOWNSEND'S 'IN AUDUBON'S LABRADOR;' MILLER'S 'BIRDS OF LEWISTON-AUBURN;' TRAFTON'S 'THE TEACHING OF SCIENCE IN ELEMENTARY SCHOOLS;' 'THE CONDOR;' BOOK NEWS.

EDITORIAL 309

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT 310

PRACTICAL CONSERVATION OF BIRDS, *A. H. W.;* JUNIOR AUDUBON WORK, *A. H. W.;* MEANS OF SECURING INTEREST IN BIRD-STUDY; BIRD-HOUSES; AN AUDUBON LIBRARY EXHIBIT; A TRUE BLUEBIRD STORY; A BIRD STORY; MY FRIEND, JIM CROW; A ROSE-BREASTED GROSBEAK FAMILY.

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT 322

THE ENABLING ACT BECOMES A LAW; A JUNIOR CLASS IN THE MOUNTAINS; ELGIN (ILL.) AUDUBON SOCIETY'S ANNUAL EXHIBIT; BIRDS AND CATS; REPORT OF JUNIOR AUDUBON CLASSES; NEW LIFE MEMBERS; CONTRIBUTORS TO THE EGRET FUND.

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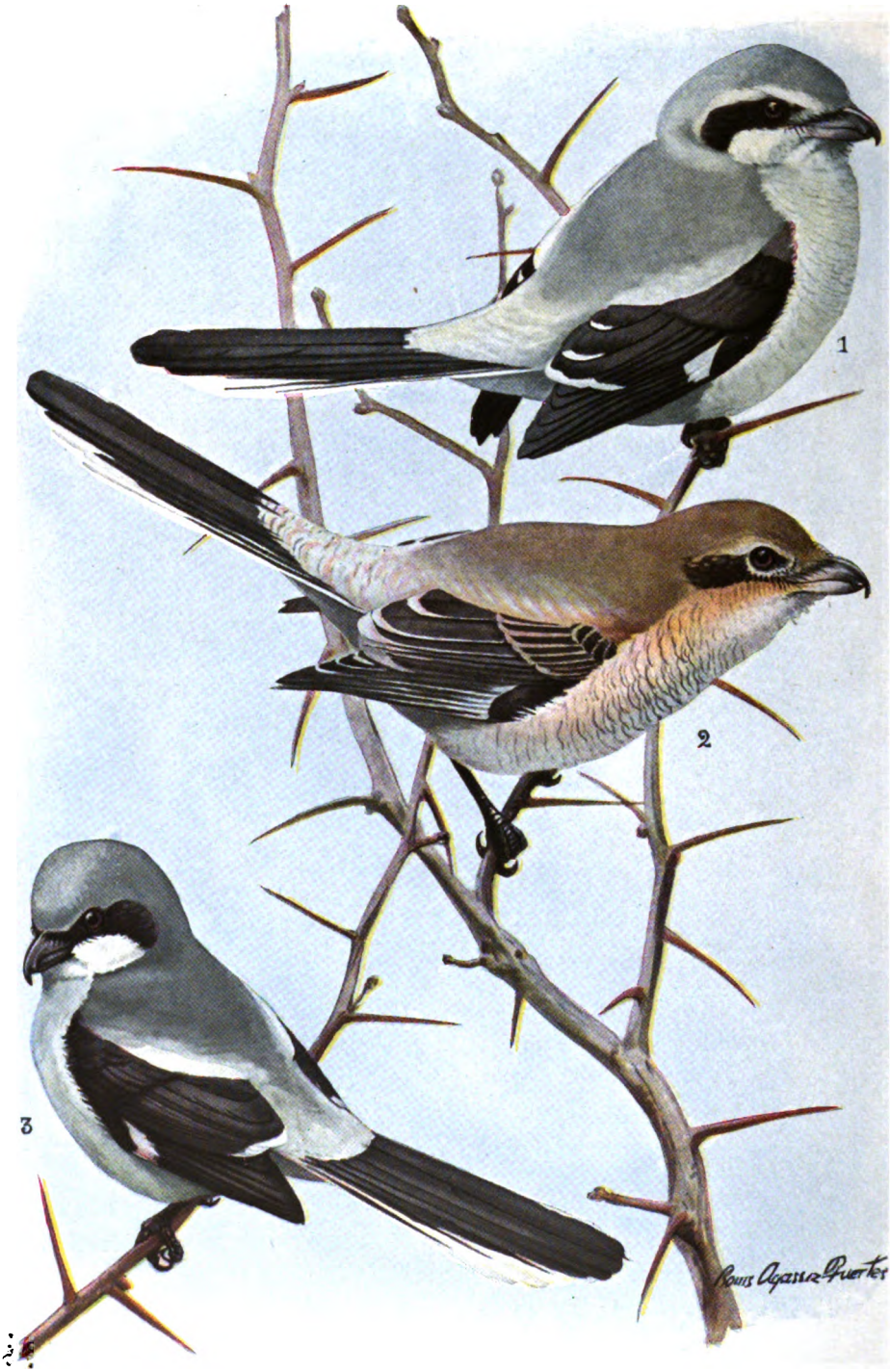

1. NORTHERN SHRIKE, Adult 2. NORTHERN SHRIKE, Young
3. LOGGERHEAD SHRIKE
(One-half natural size)

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A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XX JULY—AUGUST, 1918 No. 4

Notes on the Nesting of the Nashville Warbler

By H. E. TUTTLE, Lake Forest, Ill.
With photographs by the Author

IT WAS mid-June at Lake Forest, Ill., and a heaviness hung in the air laden with the sweetness of the clover fields. My bird-season was drawing to a close. I was strolling along a steep side hill, where birches and azalea bushes made the walking difficult when, from between my feet, there fluttered forth a little green bird which flew swiftly into the tops of the birches and disappeared without a note of protest. To make assurance doubly sure I looked for a nest and presently found it—a grassy cup set in a bit of moss under a bunch of drifted leaves and crisp twigs. Wintergreen leaves and the withered ends of the spring's arbutus carpeted the immediate surroundings. So well hidden was it that I had to remove the roof of dead leaves, better to take my pictures.

When the five eggs had hatched, I returned with an umbrella tent which I set up within a yard of the nest and inside of which I installed my camera. Even as I did so I had my second glimpse of the bird and knew it for the Nashville Warbler. Leaving the tent to convince her by its lifelessness of the innocency of my intentions, I wandered down the side hill to an open glade where the Towhee nested under the dead bracken, and the Indigo Bunting among the young sprouts, and where the tiresome lay of the Chestnut-sided Warbler rose like a fountain day and night. An hour later I revisited the blind and discovered the Nashville quietly brooding. Slipping under its far side, I was soon inserting a plate-holder, and shortly after took a ten-second exposure of the bird. I made other exposures of equal length, and in only one out of four did she move, and this was because a young bird underneath tried to change its position. A lazy little song from the birch tops, which caused the little green bird on the nest to jerk her head up quickly and fly away, led me to believe that Nashville *père* was not overmuch interested in his growing family.

In a few moments his better half was back with a bunch of green cater-

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pillars, all cut into short lengths—or so they seemed—and delivered them to the open mouths that greeted her. The shutter clicked, but she no longer minded that, for as an extra precaution I had clicked the shutter incessantly

"THE NASHVILLE QUIETLY BROODING"

until she ceased to jump at the sound, before I had inserted the first plate-holder. Of course there were lots of failures—plates were fogged, the Nashville moved too quickly, or the light was poor—but there were good pictures, too, a reward for sitting hunched up under an unbrella with one knee crooked

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about a sapling in order to stay on the hillside and endure in silence the friendly ants which crawled down the back of my neck, not to speak of mosquitos whose number was legion. The nest was in deep shadow during the greater part of the day, and, in consequence, I attempted slow exposures when the bird brooded and, of necessity, faster shots when she stood on the edge of the

"DELIVERED THEM TO THE OPEN MOUTHS THAT GREETED HER"

nest or fed the young. Once the sun struck so full on the small birds that I had to erect a little sunshade of dry leaves to shield them from the heat.

The Warblers (for though I could not identify him positively, I am sure the male must have shared in providing the larder) delivered food on an average of every three and a quarter minutes, with an occasional interval of five minutes or longer. The nest was cleaned every third or fourth trip. I find only one unusual habit scribbled into my field notebook. "Sometimes the

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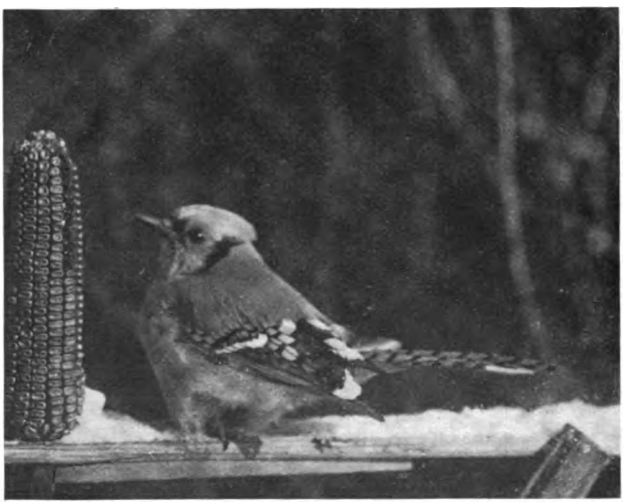
bird pokes its bill deep into the grasses of the nest's bottom, poking and shoving hard against the lining until I can plainly hear the impact." The Nashville's chestnut crown, so prominent in the descriptions of the bird-books, is a more or less concealed patch, like the Kingbird's, or perhaps the male alone shows it to advantage and I was wrong in supposing that he shared in the domestic duties. I never saw a real touch of brown, or even a suggestion of it, except once, and then before I could make sure the bird had flown, this, too, although my observations were made at a distance of twelve inches. The Nashville was not an expert at broken winged tactics when driven from the nest, but soon desisted and flew into a nearby bush, where she lisped a monotonous protest. There were few disturbances in the bird-life of the birch hillside. Once, at a most awful outcry among the denizens of the open glade, I lifted the tent flap, whereat a big Red-shouldered Hawk vaulted upward from a low birch tree and left for fresh woods and pastures new.

I used the blind at intervals during three days, and then, having secured as many pictures as I wanted, I picked up my tent and wandered out of the birch thickets into the dusty road. The nesting season was over as far as I was concerned, and, in spite of the mosquitos and exploring ants, I was sorry. But before many days I paid a farewell visit to the Nashvilles. Where the azaleas gave way before the ranks of the white birches, there was desolation wrought. Whether a stray cat, curiously following the trail of a man, had in the stillness of the nighttime scooped Nashville mother and half-fledged young from the depths of their grassy nest, only the birch trees know.



THE BLUE JAY'S WHEATLESS DAY
Photographed by Ansel B. Miller, Springs, Pa.

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How I Mothered a Pair of Hummingbirds

By P. GREGORY CARTLIDGE, Oregon City, Ore.

THE trees, shrubs, and vines about my Oregon home grow in such profusion that many species of wild birds have chosen my garden for their domain. This not only affords me the pleasure of studying them, but the opportunity to protect them and otherwise to advance their welfare.

One lovely afternoon in June, as I sat sewing at my open window, enjoying the fragrance from the rose-garden and the contented twitter of fledglings, suddenly the 'S.O.S.' of bird distress sounded from a nest near me in the honeysuckle vine on the porch. I looked cautiously about, to see if some prowler could be annoying, but saw none; hence I attributed the incessant squeaks (I know of no better word for the noise) to baby-bird hunger and went to another part of the house where the distressing cries were inaudible, to remain until their impatient wants were satisfied.

But it was not long until I returned to my delightful window and found the cries even more nerve-racking than before. Something was wrong, but what? I went out on the lawn and stood peering up at the nest, when suddenly a wee mite of a dark something tumbled to the ground near me. I tenderly lifted it and held it in the palm of my hand. It was a tiny Hummingbird, no larger than a bumblebee—just a wee little somber bit of life that I might easily crush between my fingers.

The warmth of my hand soothed but did not quiet it, and with a feeling of helplessness I climbed to the nest to replace it, and there another little mite, hardly as large nor as strong as the one that had fallen, but with squeaking abilities second to none, peered up at me and opened its tiny beak so very wide I knew it must be ravenously hungry. But where was the mother? What could be keeping her away from her nestlings?

It did not occur to me until some time later that perhaps I could feed the birds—I was willing to attempt anything to stop the noise. Knowing that they liked nectar, I thinned some honey with water and was ready to begin. Never had I seen so small a beak before. I was not a little puzzled to know how to feed them. After some strenuous moments spent in experimenting, from which the birds emerged wet and sticky, I was on the verge of giving up in despair, when I chanced to spy some toothpicks. They more nearly resembled the mother's beak than anything I had yet tried, so I made a final attempt with them. The result was pleasing indeed.

What a feast that meal was! Surely the birds had never been so hungry before! When they were both thoroughly satisfied I replaced them in the nest, hoping the little mother had not returned in the meantime and, finding them gone, needlessly suffered the pangs of bereaved motherhood.

For awhile the birds were content, but not long. Then I did not know what was best to do. The shadows were lengthening on the lawn, and the breeze

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that had been so soft all afternoon was wafting the chill from the far-off snow-clad peaks. Something surely had happened to the mother. Never had she neglected them before.

I then tried to run away from the cries of the birds, as I had done before, but I found myself listening anxiously—the farther away I got the more intently I listened. At last I realized that I could not leave them so, and returned to the nest and fed them again. But I earnestly hoped that the mother would appear before feedimg-time again came round. How vain was that hope—she had gone on her last errand of love!

Twilight was falling fast as I went into the rose-garden for flowers, and, passing a climber that had fallen on one of my choice shrubs, I again attempted what I had failed to accomplish that morning—to tie the rose up to the pergola. I had worked but a few moments when I found the explanation for the neglect of the wee bird babies. There, entangled in the string, was the mother bird, a sacrifice to mother love! She had come to the sweet-flowering shrub to get nectar for her precious little ones, her buzzing wings had tangled in the string, and her little body was cold and rigid.

Just at dusk I loosed the moorings of the small but beautifully made nest on the porch, and took the little ones into my home. But just what to do with them was perplexing. I sought my books and turned to the chapter on Oregon birds. But it told me nothing of the fine art of mothering such delicately organized life.

At length, left to my own initiative, after feeding, I placed them in the nest on the mantle in the study, and covered them with softest cotton. There they would be safe, if they lived—but would they live?

Very early the next morning I hastened to the nest, expecting to find two lifeless forms. Carefully I lifted the cotton, and beheld two wide-open beaks greeting me and sending in a hurry call for breakfast.

This was the first order, and it was by no means the last. I cannot count the many meals they had that day. They averaged one about every fifteen minutes until darkness fell. The imperative way they had of announcing the lunch period was not to be disregarded. And what appetites they had! So greedy were they that neither would wait for the other to be fed, so I was compelled to take both of them in the palm of my hand and alternate the doses until each was satisfied.

But honey became an expensive diet, and someone suggested that brown sugar was good enough "for those ugly bugs." So I tried sugar and water, and, to my surprise, they liked it better than honey.

As the weeks passed, the meals became less frequent but greater quantities were required. The birds began to develop rapidly, and the little nest soon became too small. Then I gave them a new home—a shoe-box filled with cotton—and they were as happy in their new quarters as birds could be.

By this time they began to be very interesting. They would stretch their

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little necks and eye me from a dozen different angles; at other times they would snuggle down in the cotton and go to sleep. But when they surveyed me, I studied them. One discovery made at such a time startled me extremely. Holding them to the light to enjoy their coloring, I noticed, for the first time, that their little bodies were translucent—I could see into them, if not entirely through them. The sunlight X-rayed them, making the fragile bone-structure visible.

They were very active now and, in exercising their little wings, learned to make a tremendous humming noise, which warned me that they needed a cage. I made one, some 6 feet square, of ordinary wire window-screening, not at all ornamental but excellent for them; and, by the end of the first six weeks, they frolicked to the limits of their little world.

The days as they came and went found my chief delight in these birds, so when two months had passed—busy, busy months in which my attention had been so centered that duties in other directions had suffered—I determined to devote less time to them. By making little grooves in beeswax and filling them with sweets, I tried to teach them to care for themselves. But it was a mistake; they would not touch it. Gathering deep flowers, honeysuckles and the like, I hoped further to entice them, but this, too, was a failure. Having provided for them in this manner, I often left them for an afternoon, in an effort to teach them self-reliance. But on my return, the first step on the porch told of their utter dependence on me, for I could hear their insistent demands for refreshments. Although my needlework, music, and household cares were neglected in my desire to raise these helpless little creatures, I did not begrudge the time devoted to them; I enjoyed the experience in a way I cannot relate.

It was interesting to watch the birds develop. The larger of the two became a most beautiful bird. As he dashed wildly to the corner of the cage and hovered momentarily over some flower I had placed there, vibrating his wings rapidly, he seemed to diffuse an iridescent glow; becoming calm, his little body radiated soft coppery tones with each quiet movement. The smaller bird was not so bold in her coloring or conduct; she was by nature modest and retiring. Although somber and delicate, she was, perhaps, as beautiful.

When they had been three months in my home, they seemed fully developed, and I thought how happy they would be if free, for their wild tendencies had never been tamed though I cared for them so constantly. True, I found them submissive at feeding-time, but when hunger was appeased I became a strange monster, and when allowed a flight through the rooms, feeding-time must come again to recapture them. Was it right, I asked myself, to imprison these little creatures, now mature, when they could provide for themselves—if they ever could.

Having made up my mind, I chose a beautiful day in September in which to free them, a splendid time in western Oregon, for flowers still bloom and nectar is still plentiful. I chose the morning, for many hours would pass before

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twilight fell, and, if in need of help after their first view of the world, perhaps they would come home to me.

And so the last little meal of which they partook from my hands was a very ceremonial affair. Often I paused for a loving caress and told them of the big strange world they would soon enter and how very much I should miss them. Little Dick seemed to sense what I said, and I fancied looked alert and eager for the adventure awaiting him. His little companion seemed thoughtful, anticipating imaginary troubles ahead. Did she shudder at the contact with the world? Did she long to stay with me? Was she thinking this little home good enough for her?

At last, the impressive meal over, I partially enclosed them in my hands and went to the rose-garden—down to the very shrubs where the mother had last sought sweets. With joy I noted them as perfect, as beautiful as she was. Then musing, "Farewell, little friends, you have a mission in life as well as I; my usefulness to you is past," I tossed them lightly to the pergola, and simply said, "Go!"

Scarcely realizing their new strange freedom they nestled for a moment on the sweet climber, then, with a wild humming sound as he dashed to the right and the left to get his bearings, Dick disappeared. I never saw him again. Then, suddenly, the little female followed, and when she too was gone, I waited anxiously an hour or more for their return. Never had I listened more intently to the sounds of the air, but there was no message for me.

Feeding-time came and went; the second one came—and, oh joy! with it came the call! Quickly I ran into the yard and found that the little one had come home. Perched on the clothes-line, pitifully crying, I found her. And when I raised my open hands, she fairly fell into them and nestled contentedly once again. How lovingly I held her! And what a big feast I gave her! Then, reluctantly, but hopefully, I again opened my hands to the heavens, and this time she dashed happily away to the mysteries of her own little world.

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The Black-billed Cuckoo

By C. W. LEISTER, Ithaca, N. Y.
With photographs by the Author

THE Cuckoo is a bird of mystery. He glides from place to place through the trees with an ease and quietness that is uncanny. Along with this unbirdlike characteristic, he is a ventriloquist. Often you hear his repeated *kuk-kuk, kuk-kuk*, but it is very difficult to tell how far away or in what direction to find him.

Sitting on a branch, he moves his head slowly from side to side; his sharp eye soon sees the caterpillar eating the leaves. There is a quick bob of his beak, and the caterpillar disappears down his throat, with a gleam in his reddish eye, and the Cuckoo is ready for another victim. Always hungry, and with caterpillars forming the principal part of his diet (the more hairy they are the better he seems to like them), he is one of the most valuable birds we have.

YOUNG BLACK-BILLED CUCKOO
The quill-sheaths remain close until the bird is nearly ready to leave the nest, then open within a few hours

Unlike the European representative of the family, it is not customary for the American Cuckoo to lay eggs in the nests of other birds, but they have been known to lay in other Cuckoos' nests, and, very rarely, they have parasitized other birds. Due to this parasitic habit, so widely mentioned, the Cuckoo is well known throughout the country and for some peculiar reason, probably that he is supposed to utter his call-notes before a storm, he is commonly called 'Rain-Crow' or 'Rain Dove.'

I was eager to study this interesting bird, so, when I found a nest of the Black-billed species in a small clump of wild cherry and young elm trees, I resolved to watch the nest and take some photographs.

The nest contained three dull bluish eggs, and the female had been incubating them for they were quite warm. But she had doubtless heard my approach and quietly slipped from the nest. The next day a make-believe camera, made up of three sticks and an old oil-can, was set up nearby, so that

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the old bird would get accustomed to it and not notice the camera that was to be substituted later on.

In a few days all the eggs had hatched. The young grew rapidly on their diet of tent caterpillars, and several photographs were taken of the adults feeding them. When the old bird returned to the nest and found me nearby, she would fluff out her feathers, droop her wings, and flutter around through the branches, appearing three times her normal size and *kuck-kucking* her alarm all the while.

Young Cuckoos are peculiar-looking little fellows, for instead of their feathers growing out gradually, as is the case with other birds, they grow out enclosed in a quill-like sheath. After a time these sheaths break open, and in a few hours the young bird is fully feathered. I wanted very much to watch this process but was disappointed, for when the young were almost old enough to change, they seemed to get the wanderlust and would not stay in the nest. They scrambled to the edge, hung there for a time, and finally dropped to the ground. One was more precocious than the other two and caused the most trouble. I found him under the nest several times by following up his call. I took a picture of him in his suit of quills and placed him back in the nest. When I came back the next day it was empty.

The young also have peculiar spots in the roof of the mouth. These disappear after a time, and no one knows whether or not they are connected with some body function.

BLACK-BILLED CUCKOO FEEDING YOUNG
Note the apparent pattern of marking occasioned by the sunlight and shadow

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Bird Walks

By CHARLES B. FLOYD, President of the Brookline Bird Club, Brookline, Mass.

AMONG the most successful and popular activities of the Brookline Bird Club are the frequent afternoon walks in the field. They were first undertaken to interest the members and to teach them where to find birds and how to study and identify them. During the spring, autumn, and winter these walks have been conducted every Saturday afternoon, and during the height of the migration in May, twice a week, for several years past. They give an opportunity for the bird student, whether he knows much or little about birds, to observe them in the open and to impart or to receive knowledge of bird ways.

Besides these afternoon walks, all-day trips are planned for holidays to more distant places, as Ipswich, Mount Greylock, and Cape Ann. Members of the Club who are interested in flowers, trees, ferns, mosses, or other branches of nature study are sure to find congenial company on these excursions and much to study besides birds.

A small committee is appointed each year by the president to arrange a schedule of walks. This committee selects the leaders and arranges all the details relating to the meeting-points, transportation, probable expense, and whether or not a supper shall be taken, and a printed notice covering these details is sent each member every three months. In making up such a schedule the committee considers the possibilities of each location at the particular time chosen and also what birds in all likelihood may be found and what the walking conditions may be. If possible, the walk is so planned that if any of the members wish to leave before the tramp is completed they will find themselves within reasonable distance of a car-line.

A leader is selected who is thoroughly familiar with the territory over which the walk is to extend and who has a good knowledge of the favorite haunts where particular birds may be expected. While the leader cannot, of course, guarantee the presence of any special bird at a certain time and place, much of the success of the walk depends upon him, and he should have the coöperation of all those who accompany him. The functions of the leader are to select the exact ground to be covered, keep the party together, identify, if possible, whatever is seen, and to make sure that everyone observes the birds that are found during the trip. He should also keep a record of the birds seen and of everything of interest in connection with their observation.

People have various ways of searching for birds in the field. Some prefer to select a likely spot and wait for whatever Fortune may send along. Others walk along, quietly following up whatever birds are flushed or heard singing. It requires some tact on the part of the leader to keep the trampers from advancing too fast while others are loitering needlessly, and he must be alert to restrain any over-eagerness of this nature. All should have an opportunity to see the

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birds found and have their field-marks and distinguishing characteristics pointed out if they do not already know them. Slow, quiet walking, no quick movements, modulated voices, eyes and ears alert, are the instructions that should be given before the start. Formality should be done away with, and the opportunity taken for self-introduction and acquaintance-making among the members on the walks.

Having noted how the schedule is prepared and the duties of the leader, let us now refer to the bulletins for a sample year and see how the program is worked out. We will begin with the walks in quest of winter birds, both residents and visitors.

For the winter water-birds like the Scoters, Old-Squaw, Bufflehead, Golden-eye and Scaup Ducks, Red-breasted Mergansers, Loons and Grebes, Squantum, Devereaux, Nahant, Lynn, or the beach at Swampscott furnish a wide range of possibilities. Here, too, the Snow Bunting and Horned Lark may be found, and perhaps some of the rarer winter visitors like the Iceland Gull, Dovekie, Murre, Red-throated Loon, or Purple Sandpiper. There is always the chance, too, that even rarer birds will appear, which adds zest to the hunt though wintry winds sweep in over the ocean. When, perchance, a Kumlien's Gull, Snowy Owl, Rough-legged Hawk, or Goshawk is seen, the bowl of happiness runs over.

For the winter land-birds one walk may be as good as another, though thickets of berry-bearing trees and shrubs offer the greatest attraction. The red cedars, sumac, bayberries, box elder and hawthorns each have their devotees, attracting the Evening and Pine Grosbeaks, Siskins, Redpolls, and Waxwings, while the stubble-fields and weed-patches draw Sparrows, Juncos, and Goldfinches. The common insect-eating birds—Chickadees, Creepers, Golden-crowned Kinglet, Hairy and Downy Woodpeckers—are to be found in every favorable place, but there is always the possibility of finding a Shrike, a rare Hawk, a Winter Wren or Mockingbird, or even an Acadian Chickadee or Orange-crowned Warbler. A list of the summer birds that have occasionally wintered here is interesting, including besides the Robins, Meadowlarks, Song Sparrows and Bluebirds, Bronzed Grackles, Hermit Thrushes, Brown Creepers and Baltimore Orioles.

When the spring walks are planned, they are arranged with the dates of various arrivals in mind so that the migrants may be found before they pass along on their northward journey. Since they remain longer in some places than in others on their migration, and since the weather may retard or hasten them, some of the rarer ones may be missed entirely. Walks near small streams that are well bordered with underbush, or near marshy land where the sun can beat down and arouse the insects as well as warm the air, will be found to contain more birds than the exposed locations. Walks are taken at this season to Arlington, Belmont, Wellesley, and the Felsway. When May arrives with its rush of Warblers, few better places can be found than the Parkway, and,

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strange as it may seem, the Public Garden in Boston. In the Garden alone splendid lists of birds are made each year, including a number of the rarer species that drop in during the night to rest and feed for a few days.

In the Parkway near Longwood is a sheltered spot where a few large red oaks grow, and, nearby, hawthorns and other small trees with a profusion of shrubbery. The Warblers seem to be especially attracted to this spot. Apparently, the swelling buds exude a sap that attracts the insects, and they in turn make easy foraging for the northbound Warblers. Standing here in an open spot last spring, Cape May, Tennessee, Nashville, Blackburnian and Bay-breasted Warblers were in sight at one time, while most of the commoner species, including the Water-Thrush, were in the immediate vicinity. When such a favorable locality is discovered it is well to approach it quietly and then remain in one place and identify the birds as they pass.

To see certain species that are only found locally or in favored spots it is, of course, necessary to take special walks, and trips have been made in search of Golden-winged Warblers, Prairie Warblers, Prairie Horned Larks, Crested Flycatchers, Chats, and Orchard Orioles.

When the weather is sufficiently warm, suppers are carried so that more time may be spent in the field and an early start for home will not be necessary. The evening songs of many birds can be enjoyed while the party stops to rest and eat supper and to wait for the nocturnal birds—the Whip-poor-will, Nighthawk, Woodcock, and Owls. A marsh haunted by Bitterns, Great Blue, Little Green and Night Herons, Rails, Gallinules, or Marsh Wrens, is an interesting place at this time, for their activities are greatest at dusk.

During June, July, and August, when the nesting season is in full sway, fewer songs will be heard, and at this time, too, many of the club members are away. This is the season for acquiring an insight into the family cares and problems of the birds, and much of interest and profit can be learned. But great care should be used at all times in approaching nesting birds, that they may not be frightened from their eggs or young.

August brings us to the beaches for the first of the returning migrants, the shorebirds or waders. Although the spring is the best time to look for the Plovers, Sandpipers, and other waders, as they, like the land birds, are then in the adult breeding plumage, without the confusing coloring of the immature birds to puzzle the observer, more varieties of shorebirds are to be seen in August and September. The weather, too, is cooler along the beaches than in the woods or open fields, and it is more comfortable for tramping. Duxbury, Marshfield, Ipswich, and Nahant beaches may furnish surprises at this time.

October and November with their clear, cold nights bring great waves of returning migrants and splendid, comfortable walks can be enjoyed. A special watch should be kept for those birds which only make their appearance during the fall migration, using another route during the long spring journey. Connecticut and Orange-crowned Warblers, Pipits, Longspurs, and Ipswich Spar-

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rows may be found, and a study of the call-notes of the migrating birds at night is of great interest. At this season, too, the ponds are visited for the freshwater Ducks, and Jamaica, Fresh, and Spy Ponds and the Chestnut Hill Reservoir are eagerly scanned for Teal, Mallard, Black, Pintail, Red-head, Baldpate, Ruddy and Wood Ducks, Coot, and Mergansers, and occasionally even a Canvasback, Shoveller, or Ringneck is revealed. Even after the ponds are mostly frozen over, some of the Ducks remain in the small open spaces and may then be observed at very close range and even photographed.

With the final freezing of these ponds the last of the migrants leave for the south, and only the winter residents are left behind with which to begin another year of bird-study. But each year brings new names to the list of birds and new facts concerning the old familiar friends, and so the interest never wanes though seasons change.

Spotted Sandpiper Colonies

By J. W. LIPPINCOTT, Camden, N. J.
With a photograph by the Author

THAT the Spotted Sandpiper sometimes associates with others of its kind and may be found breeding in a restricted area, is an established fact, but I believe, however, that this habit is the exception rather than the rule with these birds.

In the spring of 1913, I discovered Spotted Sandpipers nesting in colonies in two widely different localities: one in the city limits of Camden, N. J., the other in the wilds of Pike County, Pa.

There lies in the city mentioned a piece of marshland, about 20 acres in extent, which has defied the encroachments of the contractor and builder. Though surrounded on all sides by city improvements, this low meadow probably presents about the same appearance it did fifty years ago. A tidal ditch, an extensive mud-flat, on which for some reason vegetation does not grow, and a slight elevation, sparsely grown with weeds, and comparatively dry, are some of the features which make it an ideal spot for the Spotted Sandpiper.

A short time after the birds arrived this spring, they seemed to develop a particular liking for the elevated portion of the marsh, and whenever this spot was invaded, several Sandpipers flew up from the weeds and, with shrill pipings, circled off to the flat. Suspecting that they were nesting, I made a careful search of the surroundings, but failed to locate any nests until the last week in May, at which time incubation had already commenced.

After locating the first nest, I discovered three others within a week, and later on two more. Five of the nests were located within a space of one-fourth acre, placed among weeds of rather a scattered growth. The other nest was built in a thick growth of short grass and was the best constructed

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nest of any observed, probably because of the abundant nesting material near at hand. All nests appeared to be composed of material, scraped together, lying in the immediate vicinity of the nest. If in the weeds, the nest was built of old weed-stalks; if in the grass, dried grass became the nesting material. After the young left a nest, the first rain completely obliterated all signs of it, and the site could only be located by the mark which had been placed by it. The first young were seen out of the nest the second week in June. and I continued to see young birds in various stages of growth until July 15, at which

NEST OF SPOTTED SANDPIPER WITH ADDLED EGG AND TWO YOUNG
"The egg led to the discovery of the young which were not seen until I bent over to examine the egg"

time I saw the last young bird, which was unable to fly, running about on the mud flat, the favorite feeding-ground for all the birds. The Sandpipers continued to occupy the marsh until the middle of August, when they all suddenly deserted it.

It is interesting to note that, with one exception, every clutch of eggs hatched. This set of eggs was apparently deserted because of the dampness of the site chosen. This, I think, is a very good percentage for the vicinity of a city, where nest tragedies are the rule. Of course, I am unable to tell just how many young were destroyed after they left the nest, but I observed quite a number of young birds after they were able to fly.

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The third week in June I spent in Pike County, Pennsylvania, and while there discovered the other colony of Sandpipers mentioned. It was located on what was once the bottom of a lumberman's 'splash dam pond'. The water had been drawn off early in the spring, leaving the ground littered with dead trees, sticks, and other refuse. Here the Sandpipers made no pretense of nest-building, simply placing their eggs in a hollow among the sticks. During my short stay I located three families in different stages of development, the young of one family being almost ready to fly. I think that there were at least a dozen pairs of birds occupying this locality, but lack of time prevented me from any very careful search for nests. Strange to say, the young birds seemed to be just as far advanced as the young of the Camden colony, although the season is much later (about two weeks) in the mountains.

Two localities could hardly present a wider difference in appearance. Over one blows the breath of the city, laden with smoke and nauseating odors from neighboring chemical plants; over the other blows the breath of the hills, permeated with the ozone and the fragrance of the woods. This interesting little Sandpiper, however, seems to be content whether he is teetering about on the banks of a sluggish drainage-ditch or flitting from stone to stone in the bed of a rushing mountain stream. A safe breeding-place and plentiful food-supply are the important factors in his choice of a nesting-site.

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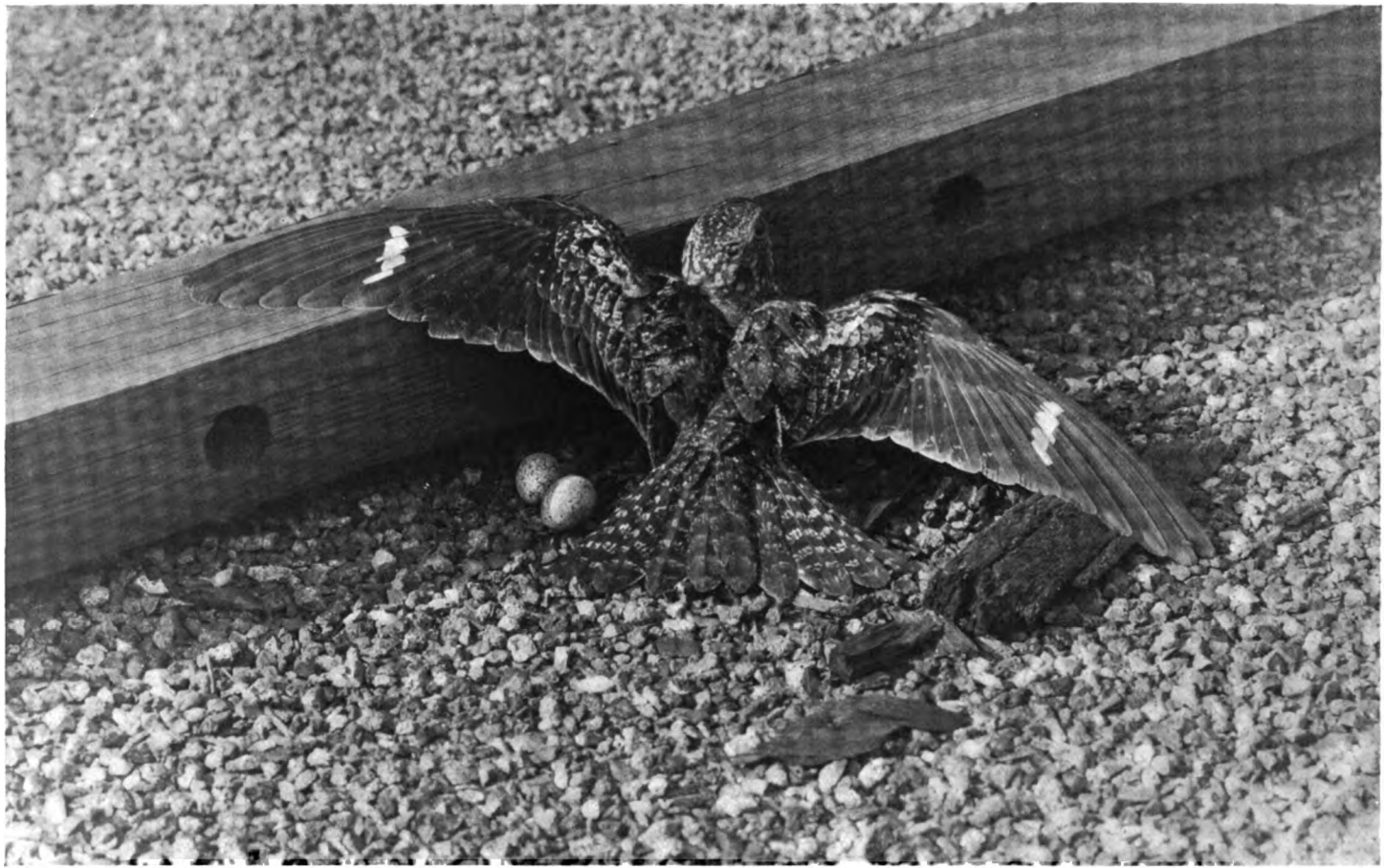

NIGHTHAWK FLUTTERING AWAY FROM NEST ON THE ROOF OF THE BELL TELEPHONE BUILDING, HARRISBURG PA.

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The Migration of North American Birds

SECOND SERIES

V. THE SHRIKES

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

(See Frontispiece)

NORTHERN SHRIKE

The Northern Shrike (*Lanius borealis*) breeds in Canada, north to northern Ungava (Quebec), southern Keewatin, northern Mackenzie, and northwestern Alaska; south to southern Alaska, central Saskatchewan, southern Ontario, and southern Quebec. In the United States it is only a winter visitor, ranging as far south as Virginia, Kentucky, Texas, New Mexico, Arizona, and central California.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Godbout, Quebec	2	April 15	April 4, 1885
Carlton House, Sask.			April 22, 1827
Fort Liard, Mack.			April 2, 1860
Fort Resolution, Mack.			April 24, 1860
Fort Simpson, Mack.	2	April 22	April 16, 1904

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Waverly, W. Va.			March 20, 1904
Washington, D. C.	2	February 6	February 10, 1846
Renovo, Pa.	7	April 4	April 15, 1900
Morristown, N. J.	6	February 27	March 14, 1914
New York City, N. Y.			March 19, 1906
New Haven, Conn.			April 18, 1885
Portland, Conn.	5	March 29	April 4, 1873
Providence, R. I.	5	March 20	April 23, 1907
Boston, Mass.	15	March 17	April 8, 1911
Tilton, N. H.	4	March 22	April 1, 1897
Ellsworth, Maine	3	April 10	April 15, 1913
Scotch Lake, N. B.	4	April 1	April 15, 1914
St. Joseph, Mo.			April 7, 1896
Chicago, Ill.	10	March 15	April 6, 1900
Oberlin, Ohio	5	February 24	April 3, 1899
Detroit, Mich.			March 15, 1903
Ottawa, Ont.	7	April 14	April 18, 1908
Keokuk, Iowa	7	March 11	April 9, 1899
Grinnell, Iowa	6	March 23	March 31, 1885
La Crosse, Wis.	2	March 29	March 31, 1907
Lanesboro, Minn.	5	March 25	March 31, 1893
Fort Snelling, Minn.			April 14, 1891
Onaga, Kans.	6	March 12	April 19, 1891
Falls City, Neb.	3	March 13	March 25, 1889
Vermilion, S. D.	2	March 20	March 28, 1889

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SPRING MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Las Vegas, N. M.			February 7, 1902
Fort Whipple, Ariz.			February 6, 1865
Boulder, Colo.	2	March 15	March 19, 1910
Camp Floyd, Utah			March 18, 1859
Fort Bridger, Wyo.			April 6, 1858
Bozeman, Mont.	3	March 30	April 3, 1912
Carson City, Nev.			March 25, 1868
Okanagan Landing, B. C.	6	April 11	April 20, 1912

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Fort Simpson, Mack.			November 5, 1903
Fort Resolution, Mack.			October 9, 1859
Montreal, Quebec.	5	November 10	December 2, 1856
Scotch Lake, N. B.	8	October 26	October 3, 1913
Ellsworth, Maine.			September 17, 1913
Phillips, Maine.	5	November 11	October 19, 1909
Durham, N. H.	2	November 7	November 4, 1900
St. Johnsbury, Vt.			November 11, 1912
Harvard, Mass.	5	November 14	October 22, 1913
Block Island, R. I.	3	November 7	November 3, 1913
Hartford, Conn.	7	October 29	October 20, 1906
Geneva, N. Y.	3	November 10	November 1, 1909
Morristown, N. J.	7	November 18	October 29, 1905
Erie, Pa.			September 21, 1892
Renovo, Pa.	10	November 10	October 24, 1912
Washington, D. C.	4	October 31	October 1, 1891
White Sulphur Springs, W. Va.			November 4, 1887
Munson Hill, Va.			November 11, 1887
Plover Mills, Ont.	3	November 5	October 19, 1890
Detroit, Mich.			November 1, 1901
Oberlin, Ohio.	3	November 29	November 6, 1897
Waterloo, Ind.	3	November 21	November 1, 1887
Chicago, Ill.	7	November 9	October 12, 1906
St. Louis, Mo.			November 2, 1906
La Crosse, Wis.			October 18, 1901
Minneapolis, Minn.			November 2, 1905
Grinnell, Iowa.	6	October 29	October 18, 1886
Keokuk, Iowa.	9	November 9	October 23, 1900
Aweme, Man.	16	October 9	October 1, 1902
Fort Pierre, S. D.			October 21, 1855
Lincoln, Neb.			October 27, 1900
Onaga, Kans.	11	November 3	October 13, 1893
Bozeman, Mont.	4	October 27	October 19, 1913
Fort Hall, Idaho.			October 12, 1872
Henry's Fork, Green River, Utah.			October 2, 1870
Boulder, Colo.	3	October 29	October 21, 1912
Las Vegas, N. M.			December 23, 1882
Okanagan Landing, B. C.	6	October 1	September 19, 1908
Shoalwater Bay, Wash.			November 18, 1854
Carson City, Nev.			November 5, 1883

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LOGGERHEAD SHRIKE

The Loggerhead Shrike (*Lanius ludovicianus*) as a species occupies practically all of the United States and Mexico and southern Canada. It separates, however, into six subspecies, all but one of which occur in North America. This one, the Mexican Shrike (*Lanius ludovicianus mexicanus*) is confined to Mexico. The distribution of the North American forms is as follows:

The Southern Loggerhead Shrike (*Lanius ludovicianus ludovicianus*) is resident in the southeastern United States and breeds north to eastern North Carolina, northern South Carolina, central Georgia, central Alabama, central Mississippi, and northern Louisiana; west to Louisiana; and south to the coast of the Gulf of Mexico and to Florida.

The Migrant Shrike (*Lanius ludovicianus migrans*) breeds in the northeastern United States and southeastern Canada, north to New Brunswick, Prince Edward Island, southern Quebec, southern Ontario, Michigan, Wisconsin, and Minnesota; west to Iowa, eastern Kansas, and eastern Oklahoma; south to Arkansas, western Tennessee, Kentucky, western North Carolina, and southern Virginia; and east to Virginia, Maine, and New Brunswick. It winters south to the Gulf States, west to Texas.

The White-rumped Shrike (*Lanius ludovicianus excubitorides*) breeds in central western North America, north to southern Manitoba, central Saskatchewan, and central Alberta; west to Alberta, Montana, southeastern Oregon, Nevada, northeastern and southeastern California; south to Tepic and Durango in Mexico, and east to central Texas, central Oklahoma, central Kansas, North Dakota, and South Dakota. It winters south over all Mexico to the Isthmus of Tehuantepec in the state of Oaxaca.

The California Shrike (*Lanius ludovicianus gambeli*) breeds in the Pacific Coast region, north to southern British Columbia; south to northern Lower California; and east to central eastern California, central Oregon, and Washington. It winters south to southern Lower California and through western Mexico to the state of Morelos.

The Island Shrike (*Lanius ludovicianus anthonyi*) is resident on the Santa Barbara Islands in California and on Santa Margarita Island, Lower California.

Only three of these subspecies are migratory, and these three in spring, autumn, and winter become so intermingled with other races or with each other that it is often difficult to separate their migration notes. In the following tabular arrangement records of the White-rumped Shrike are marked with an asterisk (*); those of the California Shrike with a dagger (†); and all the others refer to the Migrant Shrike.

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SPRING MIGRATION

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Portland, Conn.			April 11, 1900
Auburn, N. Y.	5	April 2	March 18, 1884
Syracuse, N. Y.	7	April 1	March 24, 1886
Rutland, Vt.	4	April 3	March 24, 1907
Phillips, Maine	9	April 3	March 29, 1914
Scotch Lake, N. B.	4	April 19	March 28, 1902
Montreal, Quebec	8	April 4	March 23, 1887
Wooster, Ohio	10	April 1	March 9, 1902
Oberlin, Ohio	23	March 20	March 2, 1901
Ann Arbor, Mich.	12	April 7	March 2, 1888
Listowel, Ont.	12	April 3	March 15, 1887
Chicago, Ill.	19	March 25	March 8, 1906
Waterloo, Ind.	10	March 31	March 19, 1894
Keokuk, Iowa	12	March 13	February 23, 1890
Grinnell, Iowa	8	March 27	March 18, 1888
Madison, Wis.	9	April 3	March 19, 1902
Lanesboro, Minn.	8	April 1	March 15, 1889
Onaga, Kans.	18	March 24	March 8, 1898
Valentine, Neb.*	3	April 17	April 11, 1915
Rapid City, S. D.*	3	April 17	April 8, 1909
Reaburn, Man.*	11	April 24	April 2, 1897
Aweme, Man.*	16	April 27	April 3, 1900
Qu'Appelle, Sask.*	5	May 5	April 3, 1903
Yuma, Colo.*	6	April 26	April 23, 1908
Cheyenne, Wyo.*	2	May 3	April 29, 1889
Missoula, Mont.*			March 19, 1916
Flagstaff, Alta.*	3	April 26	April 6, 1915
Chilliwack, B. C.†			April 9, 1888

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Raleigh, N. C.	4	March 21	April 1, 1915
Brownsville, Tex.*			March 2, 1892
Laredo, Tex.*			April 20, 1866
San Antonio, Tex.*	5	April 18	April 20, 1890

FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Scotch Lake, N. B.	3	October 13	October 22, 1910
Orono, Maine			September 6, 1890
Phillips, Maine	6	August 17	August 27, 1906
Rutland, Vt.	2	October 14	October 28, 1915
Syracuse, N. Y.			September 4, 1886
New York City, N. Y.	3	September 23	October 22, 1904
Ottawa, Ont.	2	September 10	October 4, 1907
Chicago, Ill.	4	October 3	November 11, 1906
Oberlin, Ohio	4	September 24	October 31, 1896
Lanesboro, Minn.	2	September 18	October 10, 1892
Grinnell, Iowa	5	September 25	October 26, 1889
Keokuk, Iowa	4	October 12	October 29, 1893
Aweme, Man.*	4	September 23	October 8, 1899
Valentine, Neb.*	4	September 6	September 10, 1914

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FALL MIGRATION, continued

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Onaga, Kans.	10	August 26	September 15, 1913
Missoula, Mont.*			October 12, 1915
Pumpkin Butte, Wyo.*			November 18, 1859
Fort Laramie, Wyo.*			September 9, 1857
Yuma, Colo.*	3	September 24	October 2, 1906
Denver, Colo.*			November 2, 1910

LOCALITY	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Laredo, Tex.*			September 8, 1866
Brownsville, Tex.*			October 6, 1892
Raleigh, N. C.	16	September 6	August 21, 1886

Notes on the Plumage of North American Birds

FORTY-NINTH PAPER

By FRANK M. CHAPMAN

Northern Shrike (*Lanius borealis*, Figs.* 1, 2).—In nestling plumage the Northern Shrike is brownish gray above, paler and with dusky wavy markings below; the prominent black cheek-stripes of the adult are dusky and the lores are grayish. The wings and tail are dusky black, the wing-coverts, inner wing-quills and central tail-feathers being tipped with rusty.

At the postjuvenal molt the wings and tail are retained and the rest of the plumage replaced by the first winter dress. This bears a general resemblance to that of the adult female. Breeding plumage is acquired by a limited amount of feather change about the front part of the head and by loss through wear of the brown wash on the back and dusky markings below. The young male now differs from the adult male mainly in the brownish wings and tail.

At the postnuptial (second fall) molt these, with the rest of the plumage, are shed and the second winter or fully adult plumage gained. The female passes through a similar series of plumage changes, but it is always more or less barred below and in first winter dress is decidedly brownish above.

Females and males in first winter plumage (Fig. 2) may be known from the Loggerhead or the Migrant Shrike by their larger size, brownish upperparts, and wave-marked underparts; adult males, by their larger size, paler upperparts, and grayish, not black, lores and forehead.

Loggerhead Shrike (*Lanius ludovicianus*, Fig. 3).—The nestling Loggerhead has the brownish wash and dusky wavy markings of the Northern Shrike. These are especially noticeable on the underparts, but they practically disappear with the postjuvenal molt which, according to Dwight, involves the tail and the rest of plumage but the wing-quills. First winter plumage is practically indistinguishable from that of the adult. The prenuptial molt is restricted to the front parts of the head, and, as the season advances, the plumage shows the results of wear. Unlike the Northern Shrike, the male and female are alike in plumage.

*Fig. 1 represents the fully adult male; Fig. 2, the young of both sexes in first winter plumage.

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Notes from Field and Study

Summer Records of Winter Birds in the Upper Peninsula of Michigan

During a residence of several years in the upper peninsula of Michigan the writer had the opportunity of observing some entirely new facts in regard to the habits of some of the northern species of birds. The northern peninsula has been very little studied by ornithologists, but it offers a rich field for consecutive effort in bird-study. It seems to be a converging point for eastern, western, northern and southern species. The following observations upon the northern species were made in Luce County.

EVENING GROSBEAK.—The Evening Grosbeak is common usually every winter, arriving mostly about November and lingering into May. But some individuals have different habits or habitat. On July 16, 1911, a flock of a number of males, females, and young of the year were seen. The birds allowed close observation. On Aug. 18, 1912, seven were seen, six being in one flock. Aug. 10, 1913, two were seen. July 14, 1915, two, and on July 20, were again seen.

RICHARDSON'S OWL.—On July 19, 1913, a young Richardson's Owl was captured alive. Its plumage was carefully examined and compared with identified plumage of the same species. Measurements were also made and they corresponded perfectly. On the night of Aug. 15, a bird, supposed to be of this species, was heard.

REDPOLL.—The Redpoll is usually credited with being a winter visitor from November to April. It is quite true that the greater number do come at this time, but during a long residence I seldom failed to find a few birds in July or August. The following are some dates of arrival: Aug. 5, 1909; July 16, 1911; Aug. 12, 1912; July 15, 1913; July 21, 1914; and young of the year were seen on Aug. 31. Flocks of fair size were seen June 9 and 21, 1912, and May 17, 18, 20, 21, 26, and 27, 1914.

The records of the Evening Grosbeak seem particularly interesting as it seems certain that the birds nest somewhere in the middle west.—RALPH BEEBE, 600 *Hillger Avenue, Detroit, Mich.*

A Santa Barbara Hummer

This beautiful little Hummingbird chose for her home a crape myrtle tree in a Santa Barbara rose-garden, and all who have been in Santa Barbara in the winter and spring know what a feast of beauty that meant. There, while building her dainty nest—an inch and a half in diameter, perfect in architecture, gray in color and decorated with lichen,—she probably knew that she would have daily song-recitals of Mockingbirds such as would make mortals despair in their vain efforts.

I was much surprised to find the bird so confiding that I was able to put up my camera, focus it 4 feet from the nest, and give one-second exposure without her moving. The nest was about 5 feet above the ground. When the two little birds came, I was anxious to get a picture of the mother feeding them, which she did very quickly, standing on the edge of the nest and running her long bill most energetically away down their throats.

When the mother was away foraging, I covered the camera with green leaves, focused it upon the nest, then drew a thread, which I had attached to the shutter, into a room that looked down upon the nest, and there awaited the mother's return at dinner-hour. I am sure that she carried a watch, for dinner was always served promptly between 1.30 and 2 o'clock.

She was frightened on seeing the camera, and for some time surveyed it suspiciously from her perch on a telephone wire. Then, knowing that her little family's life

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depended upon her, she bravely flew all around the camera, examining it critically and lighting upon the edge of the nest, and gave them the feast for which their wide-open mouths began to plead at exactly the dinner-hour. I pulled the thread just as the mother lit upon the edge of the nest. In another exposure I caught her feeding the young bird (one had disappeared when very small), but as the light was poor, an exposure of one-fiftieth

A SANTA BARBARA HUMMER

of a second gave little detail. Unfortunately, confidence and want of suspicion in building her nest so near the earth (and the untaught small boy) brought a sad tragedy, as a boy took the nest and bird, and they were both found on a path not far distant—the bird dead.

Surely, through the splendid work of the Audubon Society and nature-study in the schools, together with many charming bird-books, we may hope that our birds, our trees, and our flowers may soon be appreciated as blessings that will need no protection of the law, but, until that time arrives, let intelligent instruction in our homes and schools go hand in hand with *enforced* laws. Warnings are posted to protect forests, and might it not be well to have such warnings, or at least suggestions for the protection of birds, placed in our schools and libraries?—OSCAR R. COAST, *Santa Barbara, Calif.*

The Black-chinned Hummingbird

I had an enjoyable experience last summer, at Eugene, Ore., with a Black-chinned Hummingbird, which will, perhaps, be of interest to other bird-lovers.

One day, early in May, we spied a pair of those living jewels darting about the loganberry bushes. The next day, the female came often about the bushes, but we never again saw the male. I have been told that he never shares in any of the domestic affairs of his kind—builds no nest—feeds no young. Certain it is that this one shirked all responsibilities.

Little lady bird chose a most uncommon location for her nest, selecting a bush that grew close beside the walk, where we passed a dozen times a day, within 6 feet of the kitchen door. No attempt was made to shield or hide it, but, rather, it was placed on the very outer stalk.

Thinking to encourage her to remain where we might watch the process of nest-building, my friend hung bits of cotton-batting and silk threads in the bushes. These the bird used almost exclusively. I doubt the wisdom of her choice, for, when a long rainy spell set in, the tiny nest was soaked, and became so heavy as to be almost dislodged from its frail support on the stalk.

But, when newly made, a more dainty bird-home cannot be imagined. A silver dollar would easily cap the top. John Burroughs tells us we should not attribute any artistic sense to birds. I do not question that high authority, but I am glad this Hummingbird's "inherited instinct" prompted her to cover the outside of her nest with gray-green moss or bits of lichen.

The tiny home-builder was so industri-

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ous that in a few days the nest was completed, and, directly, two pure white eggs lay like pearls in a velvet jewel-case. They were scarcely larger than navy beans.

Now began an anxious season, at least for us. The rain and cold continued. Scarcely any sunshine ever reached the nest, on the north side of the house. Sleet and hail beat upon it. For days the cotton was a soggy mass, and, worst of all, little Betty Flewster, as my friend had nicknamed her, would be gone from the nest several hours at a time. Repeatedly we said in despair, "Those eggs will never hatch."

But Lady Betty knew her business better that we, though we had declared her a "greenhorn," both in the choice of location and, later, in the care of her eggs, for in just two weeks from the day the first egg was laid, my friend called to me excitedly, "The first egg is hatched! There's a bird in the nest!" The next morning the other egg was hatched.

Such funny little birdlings, no larger than yellow-jackets, with no hint of a feather on their wrinkled bodies, except three greenish barbs on each wing.

For several days they were too weak to raise their heads and were blind as little kittens. We wondered how the mother bird succeeded in feeding them during that stage, but could never happen to be present at mealtime. Perhaps they, like little chickens, require little or no food for the first three days.

Later, when they were stronger, and eyes open, we had several glimpses at the feeding process. Perched on the edge of the nest, the old bird thrust her bill, seemingly full length, into the gaping mouths and went through a pumping, ramming process that seemed certain to pierce their little bodies. Of just what the food consisted, we were never able to determine,but of whatever nature, the birdlings thrived on it.

Gradually the wrinkled bodies grew plump; the little greenish barbs on each wing showed where feathers would later appear. Their backs were first hairy, then glossy, golden green with minute feathers. When fully grown, they closely resembled the mother.

I had always supposed that Hummingbirds were very shy, but we found this one quite approachable and very curious. After an hour of quiet, patient maneuvering, my friend succeeded in persuading the bird to sip honey from flowers in her hand, and later fed her with jelly, while sitting on the nest.

I made several unsuccessful attempts to get pictures. The kodak excited her curiosity and some fear. Again and again she circled around it, coming closer each time, till finally, having several times tapped it daintily with her bill, she seemed satisfied it meant no harm, so settled calmly on her nest.

All during the nesting-time, Lady Betty seemed to consider the berry-bush her special property, and waged instant and furious warfare on all intruders, big or little, bee or bird. 'Twas quite funny to watch her when she discovered a bee in the flower she wished to visit. Instantly she became a little fury. Her feathers stood out, and the humming became double-quick and so loud that the invader fled in terror. Even the Swallows who were housekeeping in a bird-house nearby, appeared to respect her rights, and quickly withdrew when that fiery dart hurled herself at them. I, too, have flinched when it seemed aimed straight at my eyes.

I know of no way to attract Hummingbirds to build near about our homes, but when those tiny creatures favor you as we were favored, consider it time well spent to watch them closely.—ELLA GETCHELL, *Willmar, Minn.*

Birds and Bees

For three seasons now we have had rather unusual bird tragedies in our garden. Although our house is set on a lot of only about one-half acre, we have occupants in the Wren, Bluebird, and Martin houses, and there are Red-headed Woodpeckers in the soft maples. In our back yard we have a great may colonies of bees, and a day in

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May when the blooming apple trees resound with their murmuring hum of industry, combined with the rich plaintive warble of the Bluebirds, the joyous gurgle of the Martins and the incessant singing of the Wrens thrill the heart of a nature-lover.

One day in the summer of 1915, when the oldest of the Woodpeckers left the nest and hopped and flew from fence-post to tree, I noticed he was getting rather near some prosperous colonies of bees, and, thinking to turn him back, I approached carefully, but he flopped down onto the entrance of a very strong colony, and in less than a minute they pounced on him. I removed him with all haste possible, first covering him with a burlap sack to stop the advance of the enemy, but he soon expired in great agony. He was a seething, hissing mass of angry bees, and practically covered with bee-stings. So infuriated were the bees that those who had lost their stings (for a honey-bee can sting only once) were clinging to the feathers and biting with their mandibles. The movement of their wings rubbing against the feathers made a noise not unlike escaping steam. I did not feel so grieved about him, as his parents had often snapped up my virgin queens when they left their hives for their nuptial flights, costing me $1.50 per snap. I felt that the Woodpecker family deserved some punishment for their treatment of royalty, though it was rather a severe revenge.

Last season, when the Bluebird family left their home, two out of the five young ones met the same fate as the Woodpecker. In crossing the garden the young birds hopped onto the doorsteps of the bee-hives, when the occupants rushed out by the dozens and pierced the dainty visitors with their deadly stings.

In the winter months of 1916–17 we spent considerable time constructing a fancy Martin-house to take the place of the old soap-box home which had collapsed in a winter storm, and erected it with due ceremony in the garden near the grape-vines when spring came. Our labor was rewarded by the Martins accepting it, on their arrival in April, and we enjoyed hearing their gurgles of approval. Sometimes there would be twenty or more inspecting all the rooms and sitting on the roof having a friendly chat. Martins have a way of visiting all the houses in the neighborhood before accepting one for nest-building. Later in the season we noticed that the birds had difficulty in alighting on the house, due to the bees pursuing them. As soon as the Martins would circle about the house, an army of bees would follow, but the birds always kept ahead of them and didn't seem to notice them while in the air. But when they would alight on the house, the bees appeared to settle on them, and they would fly away with frightened squawks. Only one pair remained in the house, and only by rushing through the air and popping into the opening, without alighting outside, were they able to keep house at all. They managed fairly well until the young needed constant feeding, when the battle for existence began. There were never less than a dozen angry bees hovering about the entrance, and whenever a parent bird would leave the house, more joined in the pursuit. In returning, the birds would sometimes make several attempts to enter before being successful, so persistent were the bees. Finally the Martins became discouraged and fed the young only early in the morning and late in the evening, when the bees were quieter. The birds would make several trips in the morning, and I could hear the clamoring of the young as they were fed. Then, when the angry hordes gathered, the parents disappeared, and I saw no more of them all day until just about sunset, when they would return and make a few hurried trips, remaining with the young at night. One of the young birds sat with his head just showing in the doorway of the house, chirping hungrily, for three days, but the parents never came near, except as stated above, and finally they failed to appear at all. The chirping of the young grew fainter and fainter, and on the fourth day all was silent about the house, though several angry bees kept up the unceasing watch.

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This fall the house was taken down and three dried skeletons gave mute evidence of the unequal conflict that was waged under the summer sky.—JOHN G. PARKER, *Hartland, Wis.*

The "Stake-Driver" Again

I, too, have read several accounts of the booming of the American Bittern, including that of Mr. vos Burgh in your May-June number. Permit me to add an important detail not mentioned in Mr. vos Burgh's well-written description. After concluding with the "plunk" position, the bird rests for some time; then, as though a new thought had suddenly occurred to him, he begins to pump in air, apparently, for his next performance. With his beak in nearly normal position, he "gulps," his throat begins to swell, and his beak rises to the "plunk" position (as shown in the sketch). Another "gulp," at a higher key than the first, increases the size of the throat and raises the beak to the "plunk" position. Other gulps follow, successively nearer together, successively in a higher key, and with ever higher angle of beak, the throat constantly enlarging to an immense size. The sound suggests to the listener 60 feet away the filling up of a jug with water. When the beak is more nearly vertical than shown in Mr. vos Burgh's first drawing, and the neck is relatively as large as that of the throat of the *hylodes* before peeping, the real stake-driving begins. The bird seems to have tapped it in before beginning the hard echo-raising blows!—HENRY TURNER BAILEY, *Cleveland, Ohio.*

A Unique Wren Nest

It seems that birds, copying after man, have been developing in an inventive line. At least one pair of House Wrens at Quincy, Ill., have come as far as the iron age and are constructing their nests with an idea of having them fireproof.

Recently the University of Illinois Museum at Champaign was the recipient of an interesting Wren nest. It was found by Miss Jessie Brackensick, of Quincy, in an angle of the top sill and braces under the roof of a chicken-house. In the fall of 1915 a tangle of rusted chicken-netting was thrown behind the shed, and the following spring a pair of House Wrens in search of nesting material found that the wire would break easily into pieces just suiting their purpose. They used this wire to the practical exclusion of all other usual materials

WIRE-WOVEN WREN'S NEST FITTED INTO LOCATION SIMILAR TO THAT OF ORIGINAL.
Photographed by Walter A. Goelitz

and formed from it a very solid but rather bulky nest. To smooth the cavity somewhat, the birds used a few grass stems and long black horse-hairs, also one small mass of cobweb. This completed the list of materials. The Wrens have used this same nest for two seasons and probably would have occupied it again this year had it not been collected and donated to the Museum.—WALTER A. GOELITZ, *Champaign, Ill.*

The Blue Jay Will Murder

While reading the war news, the murderous cry of a Blue Jay was heard, and, at the same time, the pitiful notes of a pair of Robins came to my ears. Upon investigation I found that the Jay had hustled a young Robin out of its nest in an adjacent tree and as soon as it struck the ground was pulling shreds of flesh from its breast. When driven away, the Jay called out a defiant note, as though it were part of its daily duties to kill and devour young

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Robins. For many years we have known that the old squawker Jay was guilty of stealing the eggs of other birds, but we have never before been positive that he was a murderer, and can only wonder if the Blue Jay is a Prussian blue Jay!—G. S. YOUNG, *Alma, Mich.*

From Sunset to Sunrise with the Martins During the Flocking-time

For a week previous to Labor Day, great numbers of Purple Martins were strung along the telegraph lines and hovering near certain abodes in North Evanston, Ill., near Sheridan Road. On Labor Day it was decided to watch these thousands of birds. Arriving at the scene at 4 o'clock in the afternoon, great numbers were seen wheeling in the air. Following them, we came to a woodland where vast numbers of Grackles had darted into safety. On viewing this spot from quarters, we found that the Martins were descending in great companies. Though the air was literally filled with birds, and the greatest uncertainty seemed to prevail in their wheeling and soaring, yet at a certain moment a command was seemingly given, for all at once they began to take refuge for the night in the tops of trees.

The woodland occupies nearly a square block, and is a dense undergrowth of elder below young trees, mostly elms. To say that the trees swayed with the weight of the birds will perhaps give some idea of their numbers. The sight was such that we marveled that people did not come from far and wide to see it, yet so intent are human beings in pursuit of their own particular plans that party after party motored by without one pausing to look. As the stock exchange sounds from the gallery like the buzz of a million bees, so did the whir of wings and bird exclamation thrill and stir the air. Emigrants of every nation, all babbling in a corner of Ellis Island, could scarcely have caused such a din, yet underneath was a sense of law, order, and definite plan.

Feeling that this was a rare opportunity, two of us ardent bird-lovers decided to camp out all night to observe the actions of the birds during the night. But so keen is the instinct of self-protection, that, despite all the other sounds, the moment that human footsteps were heard, the fluttering would begin, birds would fly from their perches, and a general commotion followed. Observations, therefore, had to be made outside the copse. At daybreak, between, 4 and 4.30, the vast horde began their preparation for leaving. The sound produced by their wings could be only compared with that of a huge thrashing-machine running at top speed.

There must have been some 12,000 birds falling into line leaving the wood. So accurate, so definite was each plan that one could almost imagine he heard the roll called as the birds departed. These performances continued each day until the first cold spell, when the last company departed.—W. CONROY EVANS, *Evanston, Ill.*

Swallows Flocking

The accompanying photograph was made in the middle of October and shows a flock of Swallows on Black River Bay, which is an arm of Lake Ontario in Jefferson County, N. Y. This flock was made up largely of Tree Swallows, but included also Barn and Bank Swallows, while the most interesting member of all, to me at least, was a single Rough-winged Swallow, for I have not found this species at all common in this part of the state.

This picture was made on the very edge of a large marshy stretch known, locally, as the 'Dexter marshes.' The extensive flag- and reed-beds of this locality make it a favorite place for Swallows and Red-winged Blackbirds to congregate and rest while the birds are assembling in late summer and early fall. Incidentally, the plentiful growths of wild rice among the patches of arrowhead and pickerel weed bring many wild Ducks to the same marshes.

I have seen the Swallows rise in a mass from the place of their night's rest and on investigation have found a considerable

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section of the cattail bed bent down in a continuous littered mass, as though it had been the bed of some great bird instead of that of hundreds of tiny individuals closely huddled. The Swallows all leave these sleeping quarters soon after daybreak, but often, instead of leaving the marsh entirely, they will resort to some tree or cluster of trees and here rest for an hour or two before scattering over the neighboring country to feed through the rest of the day. It was at this time, or about 7 or 8 A.M., that I rowed my boat to within several yards of the birds assembled on a few low willow trees, landed and made the picture here shown. These birds were remarkably tame, allowing me to approach to within 5 or 6 feet of them and to thrust my camera, as it were, almost in their faces.

Although the flocks of Swallows in these marshes may well be called large, I have never seen these birds here or anywhere else in this north country in numbers which compare with the *swarms* of Swallows I have observed near the Hackensack meadows near New York City. No doubt northern New York is too far toward the northern limit of the Swallows' summer range to ever witness flocks of these birds of the size they form as they progress farther southward, adding to their numbers as they go.—E. J. SAWYER, *Watertown, N. Y.*

A SWALLOW WAY-STATION
Photographed by E. J. Sawyer

A Scene from the Home-life of the Chestnut-sided Warbler

The nest here shown was found at Ithaca, N. Y., on June 15, 1915. It was on a hillside covered with 'slash' from old lumbering operations. This had since grown up to a tangle of scrub second

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growth and raspberry bushes. The nest was in one of the latter, about 3 feet from the ground. It was well built. The foundation was made of coarse grasses and rootlets, lined with finer grasses and fibers. It was not so bulky and much firmer than that of some of our other Warblers. When we came up the mother bird flew away, revealing four downy young about three days old.

After taking a position near the nest, I found that a blind would not be needed to watch and record the activities of the Warbler family. The young were quite small, and the mother bird soon came back and began brooding them. Her parental instinct quite overcame her fear of the camera and of man, allowing me to come within 3 feet of the nest and set up the camera. With the male bird it was quite different, for he would not come near the nest unless I partly concealed myself in a clump of bushes 10 to 12 feet away. A string was stretched from the camera to the hiding place, and most of the pictures were taken by pulling it.

Both birds shared in the work of feeding the young and keeping the nest scrupulously clean. At first, until the male became accustomed to the camera, the female was somewhat overworked, because she had to feed the young and keep them warm, too. He made up for his not working somewhat by singing almost continuously from a favorite tree nearby. The food brought to the young consisted mostly of plant-lice and the larvæ of leaf-eating insects.—C. W. LEISTER, *Ithaca, N. Y.*

THE WHOLE CHESTNUT-SIDE FAMILY
Photographed by C. W. Leister, Ithaca, N. Y., June 20, 1916

The Bandit.—A Street Scene from Birddom

Walking in Virginia Park one morning, I witnessed the following amusing little scene in bird-life, illustrating the audacity and impudence of the omnipresent English Sparrow.

A Robin was working hard to get a worm out of the ground. After much picking, pulling, and jerking it finally succeeded, and, raising its head high, it held the worm in its bill ready to enjoy a well-earned meal.

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Meanwhile a pesky little Sparrow, sitting about 5 feet away, had watched the efforts of the Robin with interest, and no sooner did he see the dainty morsel in its bill, than the little pirate darted like an arrow toward the Robin, picked the worm from its bill and flew swiftly about 20 feet away, to enjoy its booty undisturbed.

The Robin, on the other hand, was so completely taken by surprise by this bold attack that it stared motionless for several seconds after the receding bandit, and then started unruffled to dig for another worm.—C. BONNIG, *Detroit, Mich.*

The Wren, a Housebreaker

Late in March a pair of Bluebirds took possession of a box on a slender pole in the corner of our kitchen-garden and April 18 began to build their nest. The next day our Robins began to build on a platform on the southern end of the front porch. Late in May a pair of Chippies came house-hunting and finally chose a very bushy place in the crimson rambler, high up in the rose-trellis on the front porch. About the same time a Wren came to the box belonging to a small boy some 200 feet away. The Wren came into the yard occasionally but was promptly chased out again by either the Bluebird or the mother Robin, and sometimes quiet little Mrs. Chippy joined in the chase.

June 2, the Bluebirds went away with their four speckled babies, and then the Wren came oftener to the yard and garden. Several times I saw him fly from the grape-arbor into the rose-trellis but supposed he went there for the aphides which were abundant on the crimson rambler. After the mother Chippy had been sitting for several days, I noticed one afternoon as I sat on the porch with my sewing, that she was not on her nest. When three-quarters of an hour had passed without bringing the Chippy to her nest, I investigated. In the nest were two cold eggs. One was all right, the other had a small, clean-cut hole in it, and a third one lay on the ground broken. I suspected the Wren, but felt almost ashamed of myself for doing so.

The last of June the Bluebirds came back for a second nesting, and after looking over the new box put out for them, decided that they liked the old one better, and the mother bird set to work to re-line the nest. One morning after I knew there were eggs in the nest, I heard the Wren scolding softly in the garden. The Bluebirds were away. I stepped out on the upper back porch to see where he was and found him on the wire running between the two Bluebird boxes. I threw a stone at him but did not frighten him at all, and he went on into the Bluebirds' nest-box. As I turned away to go down and drive him off, he came to the door of the box and threw out an egg. I rushed downstairs and out to the garden where I could reach the wire, gave it a sharp pull, setting the box to swaying, and the little Wren tumbled out and flew away. On the ground beneath the box lay three broken eggs, and the nest was empty. Now I know why the other birds dislike the Wren and chase him away when he comes to the yard. I should like to ask BIRD-LORE whether this is a trait of the Wren family or is this particular Wren a degenerate member of the family?—MRS. ARTHUR F. GARDNER, 155 *Maple Avenue, Troy, N. Y.*

A Family of Brown Thrashers

The Brown Thrasher is usually a shy uncompanionable bird, displaying none of the friendliness for people so notable in the Robin and Phœbe. He is frequently seen about thickets and roadside undergrowth, which afford ample means of concealment. He flits shyly about at a safe distance from the observer, protected by intervening brushwood, and as he is seldom seen at rest, it is not easy to observe him closely.

The presence of a pair of Thrashers about a brushwood in my field led to the discovery of a nest deep among the dead branches, and it contained three newly hatched young. Desiring an acquaintance with this interesting family, I frequently visited them during the day. The old birds remained at a distance until I was within

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5 or 6 feet of the nest, then the mother darted into the brush and covered the young while the male flitted about the other side of the pile, trying to decoy me away from the nest. This was repeated at intervals during several days, while the birds gradually grew a little less timid at my presence. The mother always took the nest while the male, when I allowed him to draw me to the other side of the brush

TAMING A BROWN THRASHER

would sit motionless on a twig, manifestly afraid but determined to stand his ground if only he could keep me away from the nest. After repeated visits he would permit me to come gradually nearer till I stood within 2 feet of him. Hoping to induce him to eat from my hand, I offered him grain and angleworms, but though he would not stir till my hand almost touched him, he refused to be conciliated and would peck at my hand and hiss his desire that I should go. I won him at last with a piece of apple which, after a tentative taste, he would peck eagerly as I held it, even allowing my hand to touch his breast or back. The photograph was taken just in time, as the next day the young birds were gone from the nest, and thereafter, though I occasionally saw the old birds, I could never again approach them. —MARY GALLOWAY, 357 *Hubbard Avenue, Detroit, Mich.*

The Language of Robins

Early in the summer, a pair of Robins nested on a corner of our front piazza, which was in constant use, and many times the mother bird acted as if we had no right there. Perhaps she knew by that time it was a very public place to rear a family. However, she stuck to the home nest, and when four baby birds came, she took good care of them. They grew so fast and crowded so far over the nest that we often wondered where she found room to stay there at night to protect them. After they were feathered, one little fellow tumbled down on the porch-rug, and though he seemed almost large and strong enough to take care of himself, we put him back in the nest. They cried so for food that the parent birds were kept busy finding worms and insects to satisfy them.

One afternoon, when I was preparing the strawberries for supper, I found a number of soft ones and decided to give them to the young birds myself. I stood on a chair which raised me high enough to reach the nest and also to see the fun. All were so hungry and evidently all liked strawberries for they raised up, opened those big mouths, and I never could tell which of them got anything, for they all grabbed at each piece I held out.

I suppose the old birds were not far away and heard the noise and chatter, for soon, from the pine tree whose branches hung near the porch, came another kind of chatter—a shrill, quick, *chi, chi, chi, chi, chid, cha,—chi, chi, chi, chi, chid, cha*—repeated again and again till the youngsters heard and noticed it and then, hungry as

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they seemed, every bird quieted *at once, shut their mouths*, and lowered themselves in the nest, till only four quiet little heads seemed to be in it. I tried and tried, but could not get one of them to take another bite. I could not even pry their mouths open.

I do not understand the language of birds, but it seems there must be something of the kind. I really think the mother bird said: "Don't take another thing from that girl," and they did not. Call it what you will, I never saw such prompt obedience.

After a few days they were gone. I did not see them leave the nest, but saw the parent walk ahead, about 2 or 3 feet, and coax one bird at a time after her till she had taught them to walk from the porch, back behind the garden, where they had their flying lessons in the apple orchard.—ROSE M. EGBERT, *Chatham, N. J.*

Our Summer Visitors.—A True Story of Some Nova Scotian Birds

They arrived unexpectedly, having given us no notice of any kind. The first intimation we had of their presence was the sound of a great chattering outside of the front door. "Whoever you are," we thought, "your tones are not cultivated, and you are inclined to be quarrelsome." We opened the door, and there they were, perched on a fir tree branch nearby, and looking very belligerent, a pair of Kingbirds, dressed in black and silver-grey, with topknots on their heads and white rings around their tails. They had actually built a nest, almost on a level with our eyes, and we had never noticed them. We knew they belonged to the Flycatcher family, as we had seem them or some like them, the year before, and watched them darting and circling after insects. Now we were to have a great opportunity of getting acquainted; and not a day passed on which we did not observe them more or less.

Sometimes there would be a fearful commotion, and we would look out to see them chasing a Robin from the tree, or fighting each other with their sharp beaks. Woe to any small bird who approached too near; he would be routed without ceremony. Robins appeared to be their chief enemies, and one day, hearing the usual riot, we saw two Robins and the pair of Kingbirds in pursuit of each other around the tree. The perpendicular red line in their foreheads showed very plainly, as it always does when they are angry. The Robins, however, had the best of it this time. As soon as they were driven off on one side of the tree, they would dart back to the other side. This game was kept up until another Kingbird came to the rescue, and the three succeeded in driving their enemies from the lawn.

About this time the nest contained eggs, as we judged from the birds' behavior, the male always watching the nest when the female went in pursuit of food, which she did at short intervals. He sat nearly always on the same branch, so that he could look into the nest, and waited patiently till she was on her way home, when off he went, and she would settle on the nest in a business-like manner. Sometimes he lingered, and she chattered away to him, while he listened in a dignified way, and said nothing.

What conversations they had when the young birds were hatched! Sitting on the edge of the nest together, and turning their heads first on one side and then on the other, with such an air of pride!

Frequently the little ones must be fed with insects. From an upstairs window we could look right into the nest, and many a poor dragonfly we saw dissected alive, a leg to one and a wing to another. Sometimes one had the whole insect and the rest opened their wide mouths in vain. One poor baby bird was neglected, perhaps purposely, for they seldom gave it a mouthful. At last its poor little dead body was found on the lawn; whether murdered by unnatural parents, or by some marauder in their absence, we never knew. There were very few mosquitos in the garden that year, and we believed the Kingbirds were our deliverers. Making a circling flight, they would snap up a June bug, a butterfly, or a bee, hardly ever missing,

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and return to their perch without a second's pause.

At last 'Tag-rag' and 'Bobtail' (as we called them, from their disheveled appearance) were taught to flap their wings, to sit on the edge of the nest, and, after much exhortation and example from their parents, to get out on the nearest twig; then to make little flights of a few inches over each other's back, then to fly from branch to branch; father and mother all the time going back and forth over the route they wished the little ones to take, chattering in a peculiar language they had never used before.

They were evidently suspicious of the big setter who often occupied the top veranda step, and who seemed as interested in the show as anyone; and at last the male bird, his forehead blazing red, flew right into the dog's face. But Dick stood fast, and the birds continued the training.

Thus far had their education gone one evening when we bade them good night; and the next morning, hearing the same peculiar note, we looked out to find they had accomplished the flight to a nearby tree, and before noon they had worked their way out of our neighborhood. Only once more did we behold them, a few days later, on a tree in the garden; and we greeted 'Tag-rag' and 'Bobtail' with real pleasure.

Soon after, a pair of Cedar-birds came and took away every thread of the nest, to build one for themselves, although it seemed rather late in the season for them to rear a family.—Mrs. M. B. Des Brisay, *Bridgewater, N. S.*

Robin Nesting on Ground

On May 8, 1918, I discovered a Robin's nest built flat upon the ground, in a clump of clover. It was located in an orchard, in which there were numerous good nesting-sites in the trees, some of which held other Robins' nests.

The nest was of the ordinary Robin architecture, with the usual mud, etc., and contained four eggs, three of which hatched, and, so far as I know, the young were successfully raised.

While I have before found the Robin to nest within a foot of the ground, upon rail-fences, I have never before heard of it building right upon the ground, like a Vesper Sparrow, for instance.—Ansel B. Miller, *Springs, Pa.*

THE SEASON

VIII. April 15 to June 15, 1918

Two contributors to this department of Bird-Lore have been "called to the colors"—Charles H. Rogers, reporter for the New York City region, and also editor of the Department, is now in camp in Georgia, and Dr. Winsor M. Tyler, reporter for the Boston region, is now a Captain in the medical service and is stationed at Newport. Wherever they go and whatever be their duty we may be sure that their interest in bird-life will prove a welcome source of relaxation from the strenuous demands of their profession.—F. M. C.

Boston Region.—The season, delayed by cold and rainy weather, made little progress during the latter half of April. On May 1, it was scarcely more advanced than the extremely late season of 1917. The spring remained backward until May 7, when a few days of summer temperature stimulated such a rapid growth of vegetation that, on May 11, judged by the blossoming of the horse-chestnut trees, 1918 was three weeks in advance of 1917. Ten days later the country had assumed almost the appearance of summer, the full-grown leaves casting dense shade. Thus in two weeks a backward spring was transformed into summer.

During the last days of April, there came an unusual flight of Yellow Palm Warblers with the Myrtle Warblers, both

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in song; the former, in numbers far above normal, exhibited a marked habit of catching flying insects on the wing. The extreme heat following May 6 brought a heavy flight of delayed summer residents and transients comprising many species but surprisingly few individuals. For ten days birds were in active migration, but they passed northward so rapidly and inconspicuously that many observers reported that there were no birds to be seen after May 17, there was so little evidence of migration.

In this hurried migration, the Redstarts lagged noticeably behind; Tennessee, Cape May and Bay-breasted Warblers, although present, did not occur in such numbers as they did a year ago; all four Vireos were rare.

The Yellow Warbler is commoner than it has been for the last few years, but is found chiefly along the borders of woodland and meadows instead of in gardens. (Is this merely a local condition?) By the first of June, the song-period of many resident birds had begun to wane, owing doubtless to the cares of nesting.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

PHILADELPHIA REGION.—The temperature for April was slightly above normal. The noteworthy features of the month were a local scarcity of Phœbes—only one noted April 19; the abundance of Wilson's Snipe from the 10th to the 30th and of Yellowlegs from April 20 to May 20. Mr. William Evans, of Marlton, N. J., informed me that his Martin-house was occupied by only about half the number of birds present last spring, and that some houses in his neighborhood, which were well tenanted a year ago, had none at all. However, several places visited in southern New Jersey seemed to have their full quota of Martins.

Six Blue-winged Teal, two Upland Plover and a small flock of Pipits were observed at Salem, N. J., April 28.

Weather conditions for May were almost the exact opposite of those last year, the average temperature being five degrees above normal. The unusual warmth, together with frequent rains, caused vegetation to grow rapidly, and by the end of the month it was said to be two weeks ahead of the average. The trees were in full leaf by May 12. Thick foliage made birds difficult to see, and favoring weather caused migrants to pass through without stop. These facts may account, to some extent, for the unprecedented scarcity of some birds, especially Warblers. Observers far and near all tell the same story: "Very few Warblers seen," "Warblers very scarce," "Very unsatisfactory Warbler season," "Have not seen a single Magnolia Warbler," "Hardly any Black-throated Green or Magnolia Warblers." The writer spent some time of each day in the field from the 1st to the 20th of May, and the totals for the season for some of the more common species are: Black-throated Blue, 1; Magnolia, 0; Chestnut-sided, 3; Black-throated Green, 3; Redstart, 6; Canada, 0. Black and White, Yellow, Myrtle, Yellow Palm, and Black-poll Warblers were apparently as numerous as usual.

Miss Anna Deeter, of Reading, Pa., writes that Myrtle Warblers and Rose-breasted Grosbeaks were more than ordinarily common this spring, and that the Warbler season was disappointingly short, practically ending May 19. Here at Camden, the latest transient (Black-poll Warbler) was noted May 31.

With the exception of the House Wren and the Maryland Yellowthroat, the breeding birds seem about as abundant as ever. —JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—So far as bird migration is concerned, April and May are the most interesting months of the year about Washington. Of this period the weeks between April 15 and May 20 are, in normal seasons, the most important. The height of the spring migration, individuals and species both considered, is ordinarily from May 10 to May 15.

The present spring has been, on the whole, an unusually good season for birds, and both species and individuals have been

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numerous. Notwithstanding this, some birds have been remarkably scarce. This is notably the case with all the Swallows, the Carolina Wren, the Solitary Vireo, Least Flycatcher, Blue-gray Gnatcatcher, Vesper Sparrow, Solitary Sandpiper, and the Lesser Yellow-legs, the last mentioned of which has entirely escaped observation. It would be interesting to determine whether this scarcity is merely local or more or less general, as some species affected are transients, others are summer residents.

On the other hand, a number of species have been more than ordinarily numerous; notably the Tennessee, Kentucky, Bay-breasted, Blue-winged and Wilson's Warblers, Baltimore Oriole, Scarlet Tanager, Rose-breasted Grosbeak, Olive-backed Thrush, Bob-white, and Bonaparte's Gull. The first-mentioned of these is usually a rare bird during the spring migration, but this year it has been one of the common Warblers.

A few birds this season have appeared in great numbers for a short period, apparently representing waves of migration that affected but a species or two at a time. Conspicuous among these have been the Purple Finch, Scarlet Tanager, Kentucky Warbler, and Indigo Bunting. The duration of their greatest abundance, however, has been usually but a day or two.

In point of time, the spring migration this year has been about normal, though, as is often the case, somewhat irregular. The remnants of the great flocks of Ducks that wintered on the Potomac River lingered rather long in their winter haunts, a few species longer than ever before. The Baldpate, the latest previous spring record of which was March 31, 1912, was seen by Lieut. Ludlow Griscom on April 14, and the Pintail, by the same observer also on April 14 (latest previous date, April 1, 1842); the Canvasback remained until March 31, which is the latest definite date, although there is an old record for some time in April, 1843. Mr. C. R. Shoemaker also reported the Red-breasted Merganser on April 12, which constitutes our only definite spring record for the species. Another water-bird, the Virginia Rail, was observed on May 11, more than a month beyond its previously recorded latest date, April 6, 1892. Some of the other birds which remained beyond their usual time, a few of these equaling or approaching their latest records, are: Junco, seen on May 3; Savannah Sparrow, May 11; Wilson's Snipe, May 11; Golden-crowned Kinglet, April 2; American Coot, May 11; and Bonaparte's Gull, May 13.

Likewise a few were rather late in putting in their spring appearance, such as the Blue-gray Gnatcatcher, which came on April 16 (average date of arrival, April 7); Tree Swallow, April 14 (average date, April 7); Solitary Sandpiper, May 5 (average date, April 28); and the Rough-winged Swallow, April 17 (average date, April 9).

Early arrivals were, however, more numerous, several of them being considerably beyond previously known dates. The Louisiana Water-Thrush was observed on March 31 (earliest previous date, April 1, 1910); the Bank Swallow on April 4 (earliest previous date, April 10, 1904); Lincoln's Sparrow, April 21 (earliest previous date, May 3, 1885); and the Nashville Warbler, April 23 (earliest previous date, April 29, 1885). A single Indigo Bunting was noted on April 18, four days ahead of its previous earliest record, April 22, 1917, but no other individuals were seen until April 30. Two of our rarest spring birds also appeared earlier than ever before: the Philadelphia Vireo on May 6, the earliest previous date of which is May 12, 1902, and the Prothonotary Warbler, which Lieut. Ludlow Griscom and Mr. Francis Harper saw at Dyke, Va., on April 28, two days ahead of its earliest previous published record, April 30, 1911. Other early birds were: the American Osprey, April 6; Barn Swallow, April 6; Henslow's Sparrow, April 14; Yellow-throated Vireo, April 18; Northern Water-Thrush, April 21; Crested Flycatcher, April 21; Tennessee Warbler, May 5; and Bay-breasted Warbler, May 6.

The appearance of two birds very rare

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about Washington deserves mention here. Bachman's Sparrow was observed at Kensington, Md., by Mr. Raymond W. Moore on May 2. This is a species which seems but recently to have reached the District of Columbia, for no observers reported it until within the past few years, and it is still very rare. The Caspian Tern was seen at Plummer Island on May 5, by Mr. A. Wetmore, which is its second known local spring occurrence.

Another interesting manifestation of bird-life during this spring, to which the good weather has doubtless contributed, is the rather unusual song activity, particularly of certain species. This has been especially noticeable in the Olive-backed Thrush, the Rose-breasted Grosbeak, the Kentucky Warbler, and many of the other Warblers. Even on the warmest days their singing has continued throughout a much greater portion of the afternoon than is commonly the case. This has aided much in making daily observations, and is doubtless partly responsible for the excellent records of numbers of species and individuals noted that many observers have made during the 1918 migration season in the vicinity of Washington.—HARRY C. OBERHOLSER, *Washington, D. C.*

MINNEAPOLIS, MINN., REGION.—The unusually mild weather and the early spring awakening of March and the first half of April was checked by a cold spell that lasted from April 16 to May 1. Heavy frosts and freezing temperatures prevailed throughout the state, and on the 23d the thermometer registered 15 degrees at Duluth, with snowfall along the Canadian boundary. This put a check on both vegetation and bird arrivals. Then followed a week of very warm weather, May 6 being the hottest May Sunday on record in Minneapolis—86 degrees at noon. Following this came another interval of chilly weather, terminating May 13 with heavy frost and ice at Minneapolis and 28 degrees up at Lake Superior. From this time on continuous warm weather prevailed.

After the comparative drought of March and April more than the usual amount of rain fell in May, which, with the hot days that ushered in and completed the month, caused the waiting vegetation fairly to spring forward and burst into a rapid luxuriance that quickly more than made up for the delay caused by the frosty weather. So, by early June, vegetation was some days ahead of the normal schedule, and by mid-June, white water lilies, tiger lilies, and linden trees were in bloom nearly two weeks ahead of time.

The following are the dates of blooming of a few of the common flowers at Minneapolis: April 27, marsh marigold and wood anemone; May 2, greater bellwort and rue anemone, May 5, nodding trillium; May 6, first plum and crab apple trees; May 12, puccoon (hoary and long-flowered), spiderwort, three flowered geums, ginger root; May 16, showy orchis; June 6, great-blossomed pentstemon and pale larkspur.

In regard to the birds, it seems to be the general consensus of opinion of observers in the vicinity of Minneapolis that there has been something seriously amiss with the customary spring movement this year. Day after day the usual waves of migrants filling the tree-tops and thickets were waited and watched for, but as the season waned, it became all too plainly apparent that the pitiful representation of species ordinarily abundant was all that we were to see. In only a few instances were there anything like the normal numbers. All the various species were no doubt present but in many cases so sparingly and so widely scattered that they easily eluded observation, and it was only by comparing notes with several observers that their presence was made known. The always abundant Warblers, like the Myrtle, Palm, Tennessee, Nashville, Black and White, Blackpoll, and Maryland Yellow-throat were far below the usual number. Others less common, like the Canadian, Blackburnian, Black-throated Green, Magnolia, Cape May, Wilson's Blackcap, etc., were represented by only one or two individuals, or not at all, after much watching in favorite haunts. The

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same is true of the Sparrows, Flycatchers, Kinglets, Thrushes, and other groups of smaller land-birds. Of the water-birds the writer can speak less definitely as opportunity for thorough observation was limited, but it was noted that the always common Spotted Sandpiper was almost absent.

Since the end of the migration, considerable time has been spent in the field and it is plainly evident that our land-birds at least, with but few exceptions, are greatly reduced in numbers this year. Meadowlarks, Song Sparrows, Chipping Sparrows, Scarlet Tanagers, Catbirds, and Robins, are possibly nearly as numerous as usual, but the woods and fields are for the most part strangely silent and deserted. Of course it is not intended to give the impression that there are no birds, for all species are represented, but the bulk of bird-life, as far as individuals are concerned, is far below what it has been of late years, to say nothing of thirty or forty years ago. Why this should be so is still a mystery but the fact remains that but a small portion of the birds that left the vicinity of Minneapolis last fall returned this spring. Reports from other localities are awaited with much interest. —THOS. S. ROBERTS, *Zoological Museum, University of Minnesota, Minneapolis.*

DENVER REGION.—The bird-lover who lives in the usual haunts of the Mockingbird and hears each year the wonderful exuberance of its nesting-song, can feel with me the pleasure I have had over a great influx of Mockingbirds to this region during this season. It is now more than twenty years since I have seen so many of these birds in the neighborhood of Denver. As I write, I hear one singing lustily in the adjoining park—a rare treat. I have always believed that we would have many more with us regularly if they were not searched for and disturbed so persistently during the nesting-season. As soon as a pair or two appear in a neighborhood, everybody seems to desire a young bird for a pet. No suitable locality within a radius of twenty-five miles of Denver has failed to show a Mockingbird since the arrival of the first wave of May 2.

There has been a singular absence of Warblers this season; perhaps I overlooked them, but at any rate the only migrating Warblers I have seen this spring were Macgillivray's and Virginia, and during the same time I did not see even a single White-crowned or a Gambel's Sparrow, or a Bronzed Grackle. I have always seen these species in the neighborhood of my present home, without making any special effort. There has been an unusual number of Bullock's Orioles, House Wrens, and Plumbeous Vireos. The nesting of the House Wren in my vicinity last year and its recurrence now, lead me to hope that it will become a regular breeding bird in our park. Nighthawks reached us about on time (May 24), and again a Poor-will visited Cheesman Park, the second in eight years, coming on May 29. Our Wood Pewee was the last of the Flycatchers to appear in Denver, arriving May 23.

I have often wondered what would become of an escaped Canary, and I have had an answer this spring, for a male has been living in the vicinity of my house for several weeks, singing lustily, and getting its own living of weed and dandelion seeds as cleverly as our native House Finches, with which it has consorted much of the time.

I had looked forward with a great deal of anticipation to the time of the sun's eclipse (June 8), in order that I might note the behavior of birds on the approach of, and during, the transitory night. To our great disappointment, the afternoon was cloudy, and we were not treated to that rare phenomenon which comes with a total eclipse and an unclouded sky, the sudden and awesome change from day to night. Nevertheless, during totality (ninety seconds) the mountains and plains were covered by a striking and weird semi-darkness, and as it approached, the Horned Larks became more voluble, and the Nighthawks took up their crepuscular ways, only to roost again on the fence-posts, when sunlight once more prevailed.—W. H. BERGTOLD, M.D., *Denver, Colo.*

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Book News and Reviews

IN AUDUBON'S LABRADOR. By CHARLES WENDELL TOWNSEND, M.D. Houghton, Mifflin & Co., Boston and New York. 12mo. xiv+354 pages; 64 half-tones, 1 map.

Dr. Townsend tells us that ever since his boyhood he has longed to follow Audubon's footsteps in Labrador. This volume, therefore, not only marks the realization of an early ambition, but it serves also the dual purpose of conveying much interesting and valuable information regarding the region to which it relates and of being an illuminating and always sympathetic commentory on the explorations of the great ornithologist.

Doubtless there is no one better qualified to write a book of this nature than Dr. Townsend. A boy's imagination, stirred by Audubon's graphic description of his voyage, was doubtless further stimulated by contact with George C. Shattuck, one of Audubon's young companions, afterward a well-known Boston physician under whom, many years later, Dr. Townsend served as house officer at the Massachusetts General Hospital. Add to these circumstances a keen interest in bird-life and the strong touch which comes from personal experience, and it is evident that Dr. Townsend, so far as Labrador is concerned, is Audubon's lineal representative.

Dr. Townsend does not confine himself to birds, but writes also of plants and of people; and always there is an historical background in which, so comparatively little has the scene changed in its major features, the past is brought singularly near the present.—F. M. C.

BIRDS OF LEWISTON–AUBURN [MAINE] AND VICINITY. By CARRIE ELLA MILLER. With an Introduction by PROFESSOR J. Y. STANTON. Lewiston Journal Co., Lewiston, Maine. 12mo. 80 pages; 2 half-tones.

This is a thoroughly well annotated list of 161 species in which the author's enthusiastic love of birds finds frequent expression. Her remarks, therefore, are not confined to mere statements of manner of occurrence with dates, etc., but show a keen appreciation of the songs of birds and a discriminating interest in their ways.—F. M. C.

THE TEACHING OF SCIENCE IN THE ELEMENTARY SCHOOL. By GILBERT H. TRAFTON, Instructor in Science at the State Normal School, Mankato, Minn. Houghton, Mifflin & Co. 12mo. xii+288 pages.

Professor Trafton, drawing on his own wide experience, here writes a book for teachers on methods of teaching science. The book has six major headings as follows: I, The Pedagogy of Science Instruction; II, Biological Science; III, Agricultural Science; IV, Hygiene; V, Physical Science; VI, Outline of Science Instruction.

There is no padding, but a wealth of practical suggestion and information based not on theory but on practice. We should say that no teacher of elementary science could fail to profit by an examination of this volume.—F. M. C.

The Ornithological Magazines

THE CONDOR.—Five general articles and a number of short notes make up the varied contents of the May number of 'The Condor.' In a brief account of 'The Short-eared Owl in Saskatchewan,' Goelitz describes the nesting of the bird on the open prairies and the finding of several nests, one of which, containing nine eggs, is reproduced from a photograph. One of the most interesting articles in Bradbury's 'Notes on the Nesting Habits of the White-throated Swift in Colorado,' well illustrated with five views of nesting-sites and one photograph of a nest and four eggs collected June 24, 1916, near Hot Sulphur Springs, Colo. This paper and Hanna's article on the Swift in the number

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for January, 1917, are substantial contributions to our knowledge of the nesting habits of this characteristic species of the mountains of the West.

Mrs. Bailey's paper on 'A Return to the Dakota Lake Region' is continued with an account of the 'Birds of the Unbroken Prairie.' The type, locality, early history, and name of Costa's Hummingbird are discussed by the present reviewer, who shows that the species was described from a a specimen collected in all probability at Magdalena Bay, Lower California, and that the bird was not taken in California until twenty years later, and its eggs not until nearly half a century after the discovery of the species.

In an interesting review of 'The Distribution of the Subspecies of the Brown Towhee' (*Pipilo crissalis*), based on a study of 383 specimens, Swarth shows that the three forms of this bird in California (*Pipilo c. crissalis*, *P. c. carolæ*, and *P. c. senicula*) occupy well-defined areas which are outlined on an accompanying map. It is rather remarkable that, although this Towhee is so characteristic of the coast region, no specimens from Lake Napa, San Francisco, San Mateo, or Santa Cruz counties seem to have been examined in the preparation of the paper. In view of the recent discussion concerning the scarcity of the Brown Towhee on the San Francisco peninsula it would have been interesting to have had some explanation or mention of the local rarity of the bird in this part of its range.

The brief notes include Hunt's ingenious reconstruction of certain evidence of the presence of a Short-eared Owl near the University campus at Berkeley (an addition to the species of the local list) and Bryant's summary of the contents of 18 stomachs representing 12 species of Hawks and Owls from California.—T. S. P.

Book News

In the May issue of the New York Zoölogical Society's 'Bulletin,' William Beebe, writing on 'Animal Life at the Front,' says that "In spite of the months and years of constant noise and flames, gases and dangers, wild birds have shown an astonishing disregard of these supreme efforts of mankind. They soar and volplane, they seek their food, quarrel with one another, carry on their courtship, mate and rear families in close proximity to the actual fighting and exploding shells. In fact, their numbers have increased near ruined villages where they nest in the shattered houses and in cathedrals still smoking from devastating bombardment."

The Twenty-seventh Annual Report of the Royal Society for the Protection of Birds, presented at the general meeting of March 12, 1918, recounts the efforts of the Society in combating the popular but thoughtless desire to increase our food-supply at the expense of our bird-life at a time when birds are of exceptional importance to our agricultural interests.

Fortunately, the efforts of the Society were warmly supported by the public, to which it appealed through a special leaflet, entitled 'Birds, Insects and Crops.' The Society remarks with much truth, "Undoubtedly this was a duty which should have been fulfilled by the Government departments entrusted with agricultural and educational interests and with public money for such purposes; but since these had systematically neglected it, a Society with an income less than that of many an individual salaried official had to come to the rescue."

The spring and summer, 1918, issue of the 'Audubon Bulletin' of the Illinois Audubon Society contains 48 pages filled with interesting matter relating chiefly to birds and bird-conservation in Illinois. The address of Miss Amalie Hanning, the treasurer of the Society, is 1649 Otis Building, Chicago.

The Department of Fish and Game of the state of Alabama, has issued its usual 'Bird Day Book,' a pamphlet of ninety-six pages containing selections in prose and verse on the beauty and value of birds.

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Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
Edited by FRANK M. CHAPMAN
Contributing Editor, MABEL OSGOOD WRIGHT
Published by D. APPLETON & CO.

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

At last migratory birds have been accorded full national citizenship. No longer at the mercy of this state or of that; no longer the victims of laws made with a view to their destruction rather than protection, they are now wards of the Federal Government. And, within the limits of the United States, have certain clearly defined rights which are legally as effective in Florida or Maine as they are in California or Oregon.

Furthermore, these rights will be maintained in the interest of the birds, not of their enemies. The species classed as game-birds will still have to contribute their share to gratify the love of sport which for many generations will doubtless continue to be an inherent human attribute. But their contribution will be made with due regard to maintaining the source of supply and not to gratify the selfish thoughtlessness of the passing generation.

When on July 3, 1918, President Wilson signed the 'Enabling Act' making effective our treaty with Canada for the protection of migratory birds, he completed the structure which for the past third of a century the friends of birds have actively been endeavoring to build. Only those familiar with the history of bird legislation and who have been engaged for a more or less prolonged period in the fight to secure for our birds a satisfactory legal status, can begin to realize the significance of the victory which places their care in the hands of the National Government.

For years, it is true, certain of our states, have recognized the claims of birds to the protection of the law. But such protection extended only to the limits of the state that gave it while in the neighboring state the bird could, perhaps, not only be legally killed, but a price might actually be placed on its head!

With every state making its own laws—or failing to make any—uniformity of treatment of the subject of bird conservation was out of the question. The first man to give public expression to the inadequacy of state game laws was George Shiras III, who, on December 5, 1904, introduced the original 'Migratory Bird Bill' into Congress. The ideas it embodied were too novel to be immediately accepted, but, at least, they were presented for the consideration of the public, to live or die on their merits.

Bird-protectors were quick to see the far-reaching importance of Federal legislation; while those sportsmen who think only of the number of days of shooting they can crowd into each year were equally quick to realize how materially it would restrict their activities. Federal bird legislation, therefore, soon developed many enemies as well as many friends. Each side fully understood the nature of the struggle and was determined to fight to a finish. Fortunately the cause of the birds has never lacked for earnest and effective leaders. Shiras was succeeded by Weeks and Lacey and McLean, and finally a bill bearing the latter's name was passed on January 22, 1913, and approved by the President on March 4 following.

Beaten in Congress, the enemies of the birds soon attacked the constitutionality of the law. This question was finally brought before the Supreme Court which gave no decision but called for a rehearing.

Meanwhile in January, 1913, the allies of the birds, represented by Senators Root and McLean, had taken the initial steps toward the passage of a migratory-bird treaty which should embody the provisions of the Shiras-Weeks-Lacey-McLean law. It is the 'Enabling Act' making this treaty effective which has become the law of the Nation to be administered by the Biological Survey of the United States Department of Agriculture.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

PRACTICAL CONSERVATION OF BIRDS

The Superintendent of Public Schools in Wilmington, N. C., writes: "We are endeavoring to make our entire county, New Hanover, a Bird Conservation County. On two sides we have the sea, and on the other, the Cape Fear River. A number of migratory birds spend the winter here. We want to continue our work through the schools, and to make it effective and permanent."

In direct connection with the suggestions in the last issue for making state, county and village census-maps of bird-populations, for purposes of study and comparison, is this practical plan of setting about systematically to conserve bird-life within a single county. There could be no better way to make a real beginning in conservation than to start all the schools within a limited area in a study of the different species of birds found there throughout the year, together with the best methods of attracting and protecting them. Results are bound to come more rapidly in this way, for *concentrated effort* is an essential point in any successful undertaking.

Think what it would mean in any state, if individual counties or towns determined to find out more accurately the kinds and numbers of birds present, the kinds of food preferred by them, the enemies and dangers about them, and the laws governing their relations to man! Within a short time the public would become far more wide awake to the conditions most favorable to birds and man alike, and measures of protective control would be supported without the opposition, now so unhappily and disastrously raised by ignorant or unprincipled politicians. A recent Danish paper mentions the wholesale exportation of Gull's eggs from neighboring islands, due to the unusual demands made by the war. Just how far such utilization of a natural resource can be safely allowed, responsible persons in authority should know definitely. In our own country, the national food-administrator, recognizing the value of birds to man, particularly through their relations to agriculture, has urged upon everyone the importance of conserving bird-life. We have the opportunity now, as at no other time within our memory, to make use of every natural resource to its fullest value. Instead of minimizing the necessity of bird-study, the critical moment has arrived when we should strain every nerve to gain any advantage which birds can help to give us.

It is gratifying to receive reports that birds seem unusually abundant this season. At the moment of writing, in northeastern Vermont, Bluebirds are

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calling with much the same frequency that they did before their sudden decrease. Laughing Gulls were seen along the shores of Rhode Island in early June, while the Prairie Warbler was recorded not far inshore. Such species as these, whose numbers or distribution are varying, are singled out simply as interesting examples of beneficial species which show a rapid increase or decrease, according to favorable or unfavorable conditions.

Is it not possible to take up careful limited area studies more generally, not only in schools but also in clubs and communities, so that town by town, county by county and state by state, we shall have a continuous link of thorough investigation? In order to aid this movement, State Audubon Societies would do well to get into closer touch with each Junior Audubon Society within their limits. Not infrequently, appeals come to the School Department for information as to how and where to get material, lectures, and organized assistance in forming a bird club or Junior Audubon Society. Why not send a circular of information to each school in the state from the head office of the State Audubon Society and thus establish, not only acquaintance but a working relation, between such isolated centers of interest? The 'endless chain' idea might well be applied to bird-study and bird-conservation.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XL: Correlated with Music, Basket-making, and English. Summer Bird Music. Part III

The season has come when most people fail to take the keen interest in bird-study which they do in spring or even during June, yet there is very much to see and to hear throughout July and August, and those who really wish to become thorough students of bird-life should not neglect midsummer observations.

From any single vantage-point a list of twenty or thirty species may be listed, provided the locality is a favorable one. Should one do no more than to follow these thirty or less species, a great deal could be learned about their daily activities, which would throw light on the habits and movements of many other species. The following random list of birds seen or heard from a piazza on a rainy July morning illustrates the value of hot-weather bird-study. The environment of the locality was possibly more than ordinarily favorable, since it combined a salt-water inlet with a somewhat shaded roadside bordering on a thin fringe of woodland. One or two old apple trees, several large locusts, a few cherry trees, cultivated once, perhaps, but now run wild, shrubs and roadside weeds made up in general the vegetation. One large locust alone offered sufficient opportunity for observation. On its bark, the White-breasted Nuthatch and Downy Woodpecker and the smaller Black-and-white Creeper were

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busily engaged, uttering their various calls from time to time. At this season of the year, the Creeper gives two songs, one far less rasping than its common *wee-see, wee-see, wee-see.* Should there happen to be a bevy of young Creepers about, their notes might so much resemble those of a soft-toned Chipping Sparrow as to deceive one unaccustomed to them.

Flitting about in the highest branches of the locust were Baltimore Orioles, mostly silent except for a lisping call-note or brief chatter, in striking contrast to their full-throated, ringing whistles uttered in mating-time. Dropping in with them for a brief survey of the available food-supply on and in the weather-worn locust were a late-nesting pair of Chickadees, than whom no bird friends are more dear or constant. Just how frequently the *pewee* song of this species is given as compared with its *chick-a-dee-dee* note throughout the year, would be an interesting point to observe. Heard in the evergreen woods of more northern localities against the high, flute-like notes of the White-throated Sparrow, the Chickadees' plaintive song takes on a distinctly minor character, but here by the shore, in the open covers of the locust, the ear noted only major cadences.

The Yellow Warbler shows brilliantly against the soft, waving, green leaves of the locust in the sunlight, but on this wet morning one would never have suspected that it had any color aside from green. For a week or more during midsummer, the penetrating song of this Warbler suddenly stops, when only the keenest eye can detect the molting bird tucked away in some shady nook, moping and evidently far from its normal vivacity. The Yellow-throated, Red-eyed and occasionally a White-eyed Vireo frequented the locust and neighboring shrubs, although the presence of all three on this particular morning cannot be affirmed. It is always a pleasure to train the ear by timing the number of phrases given per minute by the different Vireos. Should one luckily discover their nests, there is an added pleasure in detecting minute differences in the shape and construction of them as well as in the materials used in making them. The call-notes of young Vireos, either in or just out of the nest, add another point of interest to these leaf-frequenting species.

In the lilacs and syringas under the locust, Catbirds abounded, singing less and less and uttering their notes in more whispered tones with the advance of summer, while from the woods to the west the call of the Wood Thrush was heard most frequently in the early, dewy morning or toward dusk. Now and then the note of an Oven-bird might be heard, although, after early July, this species is seen much oftener than heard. If not too busy a thoroughfare, it may even be found along the roadside, where overshadowing trees are thickest. Goldfinches, now setting about mating and nest-building, gave deliciously sweet call-notes, as they kept unremittingly at their task of selecting a suitable site for their home and a suitable food-supply. Back and forth on undulating wing, these beautiful songsters constantly engaged the eye as well as the ear of the observer.

With Chimney Swifts and Barn Swallows twittering and gyrating overhead,

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an occasional Kingbird, or, possibly a Red-shouldered or Sharp-shinned Hawk, the air above seemed full of life as well as trees and shrubs. The Kingbird is especially attractive when poising high up or breaking forth into infrequent, musical though brief song. It is likely, however, to confuse one who is unaware of its appearance in midair or its song.

The Scarlet Tanager and Crested Flycatchers are a delight during the summer months, and the Purple Finch also, if one is so fortunate as to be in its vicinity. The Tanager's fragile nest is rather easily discovered, and, like the Goldfinch, the brilliant and attentive male makes a picture not soon forgotten, as it carries food to the young, or, in the latter instance, to the female as well. One must not forget the humble Sparrows either, for without the familiar songs of the Chipping and Song Sparrows, a summer bird-chorus would seem thin and lacking in quality. Up on the dry pastures, Grasshopper Sparrows give their indistinct buzzing notes, and occasional flight-songs of more musical value, but by the salt-water inlet which I am describing, the Chipping and Song Sparrows most commonly represent the great family of fringilline birds.

Wrens find this environment congenial, especially House Wrens, which chatter and scold on the slightest provocation. When a big Carolina Wren chanced that way on its rather erratic wanderings, excitement prevailed, for its notes awaken even the careless onlooker of Nature. The Wood Pewee is one of our most delightful summer birds. When Phœbe has become silent and is secretively getting off its last brood, the Wood Pewee is pursuing household duties with unfailing care and charm. A Pewee's nest is almost as beautiful a structure as a Hummingbird's. Forget an aching neck if the opportunity comes to watch one in the making or the using.

Around the honeysuckle and creepers about the locust, Hummingbirds came regularly. They seemed to have each desirable flowering plant or shrub located, so constant were their visits. In contrast to these minute rapid creatures were the slow, big Herons on the inlet at low tide, whose raucous notes are familiar to all who visit the neighborhood. Sometimes an early migrating Great Blue Heron chanced in the inlet. With Kingfishers and a flock of Laughing Gulls, an occasional Tern or Herring Gull, and Spotted Sandpipers, the water side of the road was equally attractive. Indeed there is always so much to see and to learn, one can hardly afford to give up bird-study because of hot weather. When early fall comes, conditions change and migrating birds of many species confuse the observer. It is wise to improve each day in July and August.—A. H. W.

For and From Adult and Young Observers

MEANS OF SECURING INTEREST IN BIRD-STUDY

As a first step in securing interest in our spring bird-study, I suggested to my fifth-grade pupils that they form a Junior Audubon Club. Having seen

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some of the sample pictures and leaflets, they were glad to do this and became enthusiastic when I allowed them to choose a name for the club by voting, as well as to elect their own officers. Interest in the club did not lessen, because of the regular meetings for which a program was arranged by the president who secured the material and selected the pupils who were to take part. Short

NOVEL BIRD-HOUSES

accounts of these meetings were kept by the secretary. On one occasion we were guests of another club which entertained us quite pleasingly.

A number of stuffed birds loaned by the Science Museum introduced to the children birds of different families and gave them an idea of the relative sizes of various birds which could not be obtained from pictures. The study of these birds formed a good foundation for the outdoor excursions which followed as soon as the weather permitted.

After considering bird-houses from the standpoint of the birds' comfort, measurements for houses which might be tenanted, were suggested and the method of construction was discussed. Meanwhile the children placed out nesting material for the early builders. A few of the houses, which were made at home, are pictured here. The results were purposely practical rather than ornamental. One lad made a house from an old China teapot which was quite ingenious if not altogether a work of art. It is hoped that next year the construction of practical bird-houses may be included in our manual training work.

We correlated our bird-work with drawing by cutting birds out of paper and also by drawing them, following this by coloring them. The cover of the secretary's book was also designed by one of the pupils. Several phases of our bird-work formed a basis for written as well as for oral work in language. In literature Celia Thaxter's poem "The Robin" took on added meaning after they had actually heard a Robin singing during a spring shower. The children became familiar with the calls and songs of some of our common birds through the entertaining medium of the victrola. This trained them to listen for bird-

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songs more carefully and more intelligently. The games suggested in BIRD-LORE were always enjoyed, as well as was the spare time when BIRD-LORE was the popular reading. Always when it was a case of attention to a lesson or watching or listening to a bird from the windows, our little feathered friends won out. But was not this the enthusiasm I had been striving for? That they might learn to know and to love

"The bluebird balanced on some topmost spray,
Flooding with melody the neighborhood;
Linnet and meadow-lark, and all the throng
That dwell in nests and have the gift of song."

—SUSAN C. DOWD, *Springfield, Mass.*

[Several points in this admirable outline of work are important to notice particularly. One is the correlation of bird-study with drawing. Another is the systematic organization of the Junior Audubon Club which is so actively and interestingly managed. Profit also by the advice that pictures of birds are deceptive in the matter of size. It is unfortunate that the illustrations in many bird-books give so little idea of the relative sizes of different species, since size is an especially good field mark.—A. H. W.]

BIRD-HOUSES

We want to make friends with the birds because they eat insects and make life more pleasant. We can attract birds to our homes by making bird-houses, and by putting out bread for them in the wintertime. You can have a Bluebird come to your bird-house or a House Wren.

You must have no cracks in the wood where drafts may come in. The hole must be sandpapered so the bird will not catch any of its feathers. The roof must come beyond the back so the water will run off the roof.

The house must be made so it can be taken apart to be cleaned. Lots of birds do not like perches because English Sparrows can get on and chat and bother the birds inside.

If you are going to put your bird-house on a pole, paint it white; if on a tree, paint it a dull color.—WILFRED BEAUMIER, *Springfield, Mass.*

A BOY AND HIS BIRD-BOX

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AN AUDUBON LIBRARY EXHIBIT

Because these boys in the picture are more interested in birds than they ever were before, and because they read BIRD-LORE in the children's room of the public library where this exhibit was held, we are sending the picture to you.

There was no prize at all, and yet many boys responded.

All the books and articles from magazines were utilized, and yet many boys tried original models.

BIRD-BOXES MADE WITH AND WITHOUT MODELS

Now we are looking for simple bird-baths. Each one of these boys, and many others, have gardens of their own and Mr. Fullerton told them that each garden needs a bird-bath. Most models are too elaborate.

There never have been so many beautiful birds here before! Can it be because boys everywhere, who used to shoot them, are now their protectors? —A. H. THOMPSON, *Whiteston, L. I.*

[More birds than usual at this season of the year are reported in parts of Rhode Island and elsewhere. It is to be hoped that continued protection of birds in the South will increase their numbers in the North.—A. H. W.]

MY FIRST BIRD TENANTS

When, on June 1, I reached Sorrento, Maine, where I was to spend the summer, I was delightfully surprised to find that many summer birds had already arrived. The Robins had begun to build their nests, and some had laid their eggs. That same day about ten Tree Swallows came and inspected the bird-boxes I had made and put up the year before. They seemed to be specially attracted by a box which was made out of a hollow log which I had gotten at a nearby sawmill. By night it was plain that one pair had decided

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to build in it. The next day they began to bring bits of grass and straw, although it already had sawdust in the bottom of it. The nest was lined with feathers. I could easily make these observations, as the roof of the box was hinged on. I did not put my hand in the box or disturb the nest in any way, but just looked in, never leaving the top open for more than a minute. Every day one egg was laid until there were four. Then one day, when I looked in I saw that the red squirrels had made a visit. The eggs were broken and the nest destroyed. I half expected something of the kind, for I had seen the squirrels around the box and been obliged to drive them away. Another of my boxes was inhabited by Tree Swallows. I never saw the young birds, but when I cleaned out the box in the fall, I could find no traces of broken eggs, so I think that brood was successfully raised.

I also made a bird-bath by digging a shallow hole of the right size and shape, and coating the sides of it with cement. Robins, Chipping Sparrows, White-throated Sparrows, Song Sparrows, Juncos, and a Yellow Warbler visited the bird-bath this summer.

I had a self-filling food-box outside the window on the side of the house. Song Sparrows came to it mostly, but I saw a few Chipping Sparrows in it.

Before I left last fall I took down the boxes, cleaned them out, and put them up again for the birds to use for shelter this winter. I also tied suet to the trees for them.

I saw sixty-eight species of birds last summer. Among them, at Washington, D. C., were a Yellow-bellied Sapsucker, Black-throated Green Warbler, Yellow-billed Cuckoo, Black-throated Blue Warbler, Black-poll Warbler, White-breasted Nuthatch, Tufted Titmouse and Brown Creeper. At Sorrento, Maine, a Blue-headed Vireo, Great Blue Heron, and Sandhill Crane (?).

My earliest record for this year is a Robin which I saw at Yonkers, N. Y., on February 2. Four Robins were seen the following week.—GIFFORD EWING, (age, 13 years), *New York City.*

[Bird-work of this kind should be more and more encouraged. The list of birds given for Washington, D. C., is not dated, but is probably a migration rather than a nesting list, since most of the species mentioned nest farther north. The record of a Sandhill Crane in Maine is improbable for several reasons. First, no record of this species for that state is known; second, this Crane has become extremely rare in most localities where it was formerly common; and, third, its normal range is not along the Atlantic seaboard in the vicinity of Maine. It is quite likely that a Green Heron, American Bittern or Black-crowned Night Heron was seen by the observer. A good rule to follow in studying birds is to look up the *normal range* of a species when first identifying it, and in case of a doubtful record, to consult as many reliable lists as possible to discover its regular occurrence. Learn what *not* to expect in any locality.—A. H. W.]

A FEATHERED PATIENT

Perhaps you would like to hear about something that happened yesterday. I was going through a field when I saw a Robin lying on the ground. I ran

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quickly and picked it up and looked at it. It had a broken wing. I brought it home, but did not know what to do to help it. After awhile I thought perhaps Doctor Michaud would be able to fix the wing. I took the bird to him and asked him but the doctor said he could not. He told me to take the Robin and leave it in the woods so the cats would not get it. I did this and I soon saw three Robins come with the Robin that had the broken wing. I felt better because I thought they would take care of it.

We have an Audubon Class in School, and like to have things read out of BIRD-LORE.—GERARD DUBOIS (age, 10 years), *Sacred Heart School, Bathurst, N. B., Can.*

[Bird hospitals are among the latest advances in protective work for our feathered friends. It would be a good thing if someone in every community knew how to save a bird with a broken leg or wing.—A. H. W.]

A TRUE BLUEBIRD STORY

More than threescore years ago, two little girls, Jane and Phœbe Waite, lived in a rural district in New York. In summer they often went berrying. Late one afternoon they discovered a Bluebird's nest in the cavity of a tree, containing three baby birds. After admiring them, Jane and Phœbe decided the babies would make most desirable pets. They carried them home carefully and showed them to their mother. Mrs. Waite was shocked at the thoughtlessness of her little daughters. Kindness to birds and animals had always been a principle in the household. Although twilight was deepening, the mother bade her children take the little birds back to the nest. They found the parent birds in great distress. When the baby birds were safe in the nest, the mother and father Bluebird manifested so much joy and love for their babies that Jane and Phœbe sat down and cried, realizing how nearly they had been to causing a tragedy in the home of their bird friends. You may be sure they never carried away any more baby birds.—MRS. D. BERLIN, *Wimbledon, N. D.*

[Frequently boys and girls or even adults, pick up nestlings with the idea of caring for them for a time. Unless the birds are injured and helpless, it is a far better way to leave them with their parents, and to observe their habits at a safe distance. Nearly everyone who has vines about a porch will discover there a Robin's nest or a Chipping Sparrow's. These familiar species readily adapt themselves to rather close contact with people. It is not difficult to become intimate with many shyer species, and the joy of such acquaintance can only be appreciated by those who experience it.—A. H. W.]

A BIRD STORY

One day when I was out in the back yard, I saw a Wren and her young ones. She was up in a tree and her young ones were on the ground. I was near the tree. The babies thought that I was a tree, so they hopped up on my legs as if they were trees. The mother of the baby birds did not like it at first, but

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when she saw that I was not going to hurt them, she stopped scolding. Then she called her young ones to her and they flew away and I went into the house. This story I tell you is true.—DAVID LOVELAND, (age, 8 years), *Lincoln, Neb.*

[The little boy's mother adds: "I saw the two baby Wrens alight on his legs, one on each leg, as he was standing still, eating cherries from the tree in our back yard. David is a member of our Twentieth Street Audubon Society and is much interested in birds." This is a valuable observation with reference to the actions of young birds.—A. H. W.]

MY FRIEND, JIM CROW

Doubtless, when you read the title of my story, some of you will say, "She is not very careful in her selection of a friend." However, in spite of the bad reputation of this bird family, I will not change it, for, judging from my personal acquaintance with these birds, I know that, like some human beings, Crows are not as black as they appear. Their intelligence and cleverness cannot help but win the admiration of those who know them well.

I have had the pleasure of taming three Crows, but I shall tell only of some of the experiences with the one that I had for over two years, the one which was so faithful that he refused to associate with any of the Crow family who tried to coax him away, but remained with me during two cold winters.

Our acquaintance began when he was pushed out of the nest, a baby Crow, so young that all he knew was to open his mouth wide and call for food as soon as I appeared. He was so helpless, he could not even walk, but would flap his wings and call until his hunger was satisfied with a liberal supply of bread and milk.

After a time, he was able to travel, and would follow me about, but began to depend more upon himself to find food.

He was my faithful attendant to and from school, or to the village, watching from the pine tree in the yard, and flying to meet me at noon and night when I returned home. If there was any special work to be done, Jim was there to superintend it and nothing seemed to escape his bright eyes, as he sat with his head cocked on one side, closely watching.

He was fond of bright colored objects, and nothing of the kind was safe with him, for sad to relate, Jim was a thief.

One time, on returning from a neighbor's, I found he had entered an open window and was sitting on the sewing-machine with a silver thimble in his bill. Before I could rescue it, he swallowed it. Thinking about what the owner would say (for she was not as fond of Jim as I), I grasped him by the throat and choked him until he spit out the thimble. With an angry squawk, he flew away, refusing to notice me for a long time.

One kind of work, in which Jim was especially interested, was the washing, and at this time he required watching, for no sooner were the clothes pinned to the line, than he was after the clothes-pins, which he carried away to some hiding-place, sometimes tucking them under the shingles on the roof, sometimes in trees near the house, where we afterward found them. If discovered at this mischief, he would *ha! ha!* as if it were a good joke.

Mother failed to see the humor of it, and one washday, saying "Old fellow, we'll see!" pinned some of the clothes to the line with common pins, thinking there would be no more trouble. But Jim was equal to the occasion, and a little later, a row of pins was discovered on the ground beneath the clothes-line.

Members of the family were not the only victims of Jim's thievish pranks—even the cat did not escape. One day, Jim spied her playing with a mouse, and the temptation to

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get it was too strong to resist, but how, was the question. He strutted back and forth in front of her, talking all the while in Crow language, but keeping well out of reach of her claws.

This plan not seeming to succeed, he resolved to try another. Quickly slipping behind her, he seized her tail in his bill, pinching it till the poor cat released the mouse, and angrily turned to strike at him. Jim was too quick for her, however, and, with the mouse in his possession, flew to a nearby tree, where he sat and watched the disgusted-looking cat below him.

Like other Crows, Jim was interested in certain branches of agriculture, but, unlike them, he turned his attention to the onion bed, watching carefully the putting out of a large bed of onions sets,—but that was not all! As father put out row after row, Jim was following quietly behind him, pulling out set after set, so that when father turned to look at his work, every set lay on top of the ground. As this was the first offense of its kind, it was overlooked, and after Jim was driven away, the onion sets were again put in the ground as before. Several days later, when father went to look at his onion bed, he found the sets *up*, nicely piled in little heaps on the top of the bed.

This was too much for the patience of any man to endure, and Jim was condemned to death, but so strong a plea for his life was made, that the sentence was changed to imprisonment until the garden was well started.

These were only a few of his many pranks, and yet Jim did not spend all of his time in mischief.

He was an accomplished mimic. He would say "hello" so plainly and laugh so much like a person as to deceive anyone. His imitation of the cackle of a hen was so perfect that he deceived some of the family who hunted in the woodshed, from which the sound came, to find a nest. No nest was there, but finally Jim was caught at his joke, and upon being discovered, showed his appreciation of it by giving a loud "ha! ha!"

In only one attempt as an imitator was Jim a failure. In his case, the motto "Keeping everlastingly at it, brings success," did not prove true, for he did his best to gobble like a Turkey, though in vain. I have seen him, an hour at a time, follow the Turkeys about, trying to learn how to gobble, but he never succeeded in adding this to his list of accomplishments.

In the early part of the second winter of his stay with me, Jim met with a misfortune, which seemed to sober him and cause him to lose many of his bright, cute ways. One day he failed to appear, and he was found on the hill, caught in a rabbit trap, one leg nearly severed. Not a few tears were shed, for fear he would die, but with care, the wound healed, and Jim, though a cripple, still followed me about.

The next spring, however, Jim disappeared, and in spite of all our efforts, he could not be found, but in a few days we learned his fate. He had been found in another trap, by a trapper, who mercifully ended his suffering.

So because of my affection for this member of the Crow family, I cannot help but have charity for others, regardless of the questionable traits which they possess.

This is a true account in every detail. I am sorry I have no photos to illustrate some of the amusing incidents.—MILDRED H. MURPHY, *Treadwell, N. Y.*

[If birds are kept as pets, as in this case, it is wise to select a species like the Crow, whose habits cannot be too thoroughly investigated. Personal experiences with the clever and highly intelligent Crow prove more conclusively than argument the value of intimate study of this much-discussed and too often misunderstood bird. In this connection look up the bulletins on the Crow published by the U. S. Dept. of Agriculture.—A. H. W.]

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TWO SCENES IN A ROSE-BREASTED GROSBEAK HOME
Photographed by A. A. Allen

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

THE ENABLING ACT BECOMES A LAW

The Enabling Act to make operative the treaty between the United States and Great Britain regarding migratory birds of Canada and the United States, after a final, bitter, two days' fight in the House of Representatives, recently was passed. On July 3, 1918, it was signed by President Wilson and is now a law. Thus ends the struggle to secure Government control of migratory birds which began away back in 1904 when the first migratory bird bill was introduced in Congress by Representative George Shiras 3d, of Pennsylvania.

No complete history of the long struggle that has since ensued for the support of this measure will here be given, but briefly it may be stated that, although the bill advocated by Mr. Shiras did not become a law, others were inspired to follow his example in the succeeding sessions of Congress, and the McLean bill finally was enacted, and signed by President Taft March 4, 1913.

In the minds of some people there was doubt as to the constitutionality of this measure. At least two Federal judges took this position in cases that were brought before them. One case finally went to the Supreme Court. This body, apparently unable to agree, referred the matter back to the United States Department of Justice with the suggestion that it again be brought before the Supreme Court at a later date.

In the meantime a movement had been set on foot to secure a treaty between this country and Great Britain, covering the protection of migratory birds in Canada and the United States, the opinion being given by lawyers of high standing that after a treaty covering the principles involved in the McLean Law should be consummated, it would take the place of the McLean Law and would not be subject to revision by the Supreme Court. This treaty was finally ratified by the Senate August 29, 1916. But this did not end the matter, for until Congress should pass an 'Enabling Act' there would be no funds available for enforcing the provisions of the treaty, nor would any department of the Government be authorized to administer it. This Enabling Act, which has been hanging fire in Congress for the past two years, is the one which has just become a law.

This new statute gives authority to the Department of Agriculture to employ wardens and to make and execute regulations for carrying out the provisions of the

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treaty. Automatically it takes the place of the old McLean Law, and the machinery created under that law, therefore, comes to an end.

In the history of this country there has never been a conservation matter before Congress which has attracted such wide attention and has brought to its support such vast numbers of organizations and individuals connected with conservation as has this one for Federal protection of migratory birds.

Bitter opposition, cunningly marshaled, and effectively hurled against the movement has time and again blocked its progress. The writer, who has been intimately associated with practically all the moves that have been made by friends of the measure the past fourteen years, is in position to know of the real forces which have been behind it. Offhand I can name at least sixty organizations and several hundred people who time and again have worked arduously for this Government control. I hope someone with an impartial pen will write the complete story, and thus permanently record the efforts made by public-spirited men and women to help win this fight.

To my mind, towering above all others, stand three men whose names we should always hold in grateful remembrance. First, George P. McLean, United States Senator from Connecticut, who, by his great influence collected the forces in Congress and passed his original migratory bird bill. Although a Republican and operating in a Democratic Congress he was able later to guide to a successful conclusion the ratification of the Migratory Bird Treaty, and finally, at the very last moment, when the Enabling Act was about to be passed, his watchful eye fell upon two very harmful amendments that had been injected by the Conference Committee, and by prompt action he secured their withdrawal.

Second, John B. Burnham, President of the American Game Protective Association. He, more than any other man outside of Congress, has been responsible for the success of this vast campaign. He organized the first important hearing given on the bill in Washington, and for six years has made the matter his chief work in life. He visited Canada and, more than any other person in this country, was responsible for getting a correct understanding of the principles involved before the Canadian authorities and securing their coöperation. Mr. Burnham has led to a successful conclusion the most important measure ever enacted in the world for the protection of migratory birds.

Third, E. W. Nelson, Chief of the Bureau of Biological Survey. Through him and his assistants invaluable aid has been furnished the workers for this measure from the very beginning, and his aid to Senator McLean, Mr. Burnham, and other workers has been of the utmost importance.

If time permitted, other senators and congressmen should be mentioned, who at various times have rendered most valuable aid. Especially should be included Congressman Charles M. Stedman, of North Carolina, without whose splendid efforts in the House of Representatives the Enabling Act would not have been passed at this session of Congress.

The National Association of Audubon Societies has, of course, always been actively interested in this work, and through the home office, field agents, affiliated societies, and general membership has time and again labored to bring pressure to bear on Congress, and to arouse the public sentiment of the country to a better appreciation of the importance of the measures involved.

A JUNIOR CLASS IN THE MOUNTAINS

The Robin Junior Audubon Class, which comprises pupils from the three district schools in the valley of the Catskills, held its fourth annual meeting on April 19, 1918. The afternoon session was given to the exercises. The entertaining school had decorated the room attractively with greens, flags, and Liberty Loan posters.

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Good work was reported of winter feeding and bird-observation. One pupil had noted twenty-one varieties of birds this spring; another twenty-one; others less. Calendars had been kept up. Recitations were given and compositions read on the subject of birds and their service to us. The second part of the program was given to patriotic exercises, reviewing work that had been done already, and suggesting further effort, in Red Cross work, food-saving, gardening, and buying of Thrift Stamps. On a poster showing our soldiers going 'over the top' for us, had been lettered "Give Them Wheat—Eat Potatoes," and this suggestion was emphasized. At the close of this brief address the whole society took the pledge: "I promise to serve my country in her time of need!"

Admirable compositions on patriotic service were read by the pupils. After election of officers, the exercises were followed by games and refreshments.—LEILA ALLEN DIMOCK.

JUNIOR AUDUBON CLASS FORMED BY MRS. A. W. DIMOCK, PEEKAMOSE, N. Y.

ELGIN, (ILL.) AUDUBON SOCIETY'S ANNUAL EXHIBIT

The Elgin Audubon Society held its second annual exhibit from April 19–22 in the parlors of the Young Women's Christian Association building, during which time it is estimated that at least 2,000 interested visitors availed themselves of the privilege of examining the hundreds of specimens.

Besides numerous cases and collections of native birds, there were interesting groups of birds from Mexico, Australia, South America, Europe, and India. Through the influence of one of our members, who is on the staff at Field's Museum, Chicago, we had the loan of a very fine collection of fifty-three bird-skins.

The part that bird-study is taking in the schools was shown by the display of bird-

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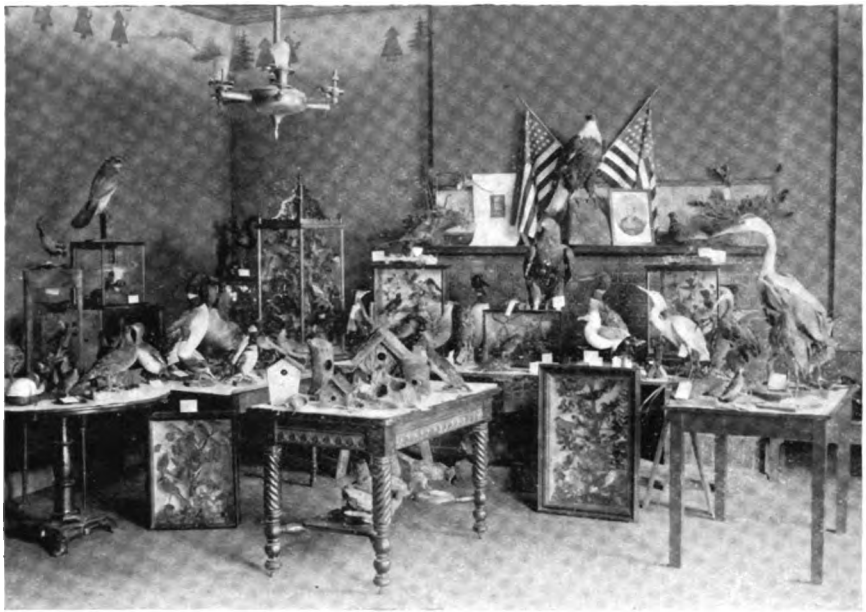

PART OF A LARGE COLLECTION OF BIRD-BOXES AND MOUNTED BIRDS SHOWN AT THE ELGIN (ILL.) AUDUBON SOCIETY EXHIBIT

Photographed by Henry Groneman

BUTTERFLY COLLECTION, ELGIN (ILL.) AUDUBON SOCIETY EXHIBIT

Photographed by Henry Groneman

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houses, paintings, and short essays on birds—all work done by the school children.

The exhibit was not confined to birds, but included a beautiful collection of seashells collected from all over the world, loaned by Field's Museum, Chicago, several collections of well-mounted and classified moths, butterflies, insects, shells, fish, fossils, minerals, fungi, and plants. A collection of hornets' nests, varying from the size of a peach to that of a half-bushel basket, were arranged on a tree, together with several nests. There were photographs of birds taken by some of the members, and a group from the Laysan Islands taken by Homer Dill, curator of Iowa State University. There were three collections of eggs, one of which bore a sign saying they were collected over twenty years ago, before the value of bird-protection was realized, and that it was now against the law to rob the nest of any bird except for scientific purposes, for which a license has to be procured.

Hill's nursery of Dundee contributed a box of bushes attractive to birds; the National Association of Audubon Societies sent quantities of free literature which was distributed; and the local book-stores furnished samples of all their bird-books and bird-records for the victrola.

On the walls were many signs calling attention to the value of protection of our feathered friends, and the aims of the Audubon Society.

Thirty-seven new members were added to the club which brings the membership to 110.

The Elgin Society justly feels its annual exhibit was a great success, and that out of it has come, and will continue to come, an added interest and appreciation of all wild life.

BIRDS AND CATS

The nesting season of the birds has arrived. Whether or not there will be the desired increase in birds this season depends very largely on the protection which will be received by the adult birds during the hatching period, and the young birds until they can fly and have learned to shift for themselves.

One of the greatest menaces to the bird-life of the country today is the house-cat. There are very few cats which, if given the opportunity, will not kill a mother bird on the nest or a helpless fledgling fluttering around on the ground. The great tragedy is as likely to occur in the clematis along the porch, or in the flower-garden, as it is in the remote places frequented by the so-called 'wild' hunting house-cat.

This is no attempt to indict the cat. We have great sympathy for and appreciation of the affection between Tabby and her owner. We are simply asking that at this crucial period the birds be given all benefit of the doubt.

We earnestly ask the owner of every house-cat during the next three months to assume the responsibility of seeing that the cat will not be given an opportunity to kill birds.

The country is at war. To win the war we must have food. It is common knowledge that the birds are a tremendous factor in the protection of the food-supply from insects. Cats, if unrestrained, especially at this season, will tremendously weaken that protection. The logic is simple. The birds are trying to do their bit. Let us all help them.—Issued by the COMMISSIONERS ON FISHERIES AND GAME for the State of Massachusetts, May 15, 1918.

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REPORT OF JUNIOR AUDUBON CLASSES

Despite all the distracting influences the past year, the formation of Junior Audubon Societies has gone steadily on as heretofore. The systematic plan of supplying children with first-class material for doing simple elementary work in bird-study is appreciated by school men and women in every state in the Union and in Canada.

One evidence of how the Junior Audubon work holds in a school where it is once established is shown by the many teachers in the grades who have formed a Junior Society every season for the past five or six years. Usually the classes move on so that the teachers have a new set of children each year, but their interest in the work causes them to encourage each group coming under their care to organize for bird-study. In many other instances, where a Junior Class has been formed in one of the lower grades, the children have insisted on reorganizing year after year, although the class continually passes on to the care of different teachers.

This year, as heretofore, immense numbers of bird-boxes have been built, and around thousands of schoolhouses birds have been fed in winter. Many attractive programs have been rendered, and the local interest in bird-preservation kept alive and stimulated by the little folk at school.

For the school year ending June 1, 1918, classes were formed and members enrolled in the different states and Canada, as shown in the following summary:

Summary for Year Ending June 1, 1918

State	Classes	Members
Alabama	5	147
Arizona	4	74
Arkansas	1	31
California	197	5,678
Colorado	48	1,487
Connecticut	324	7,608
Delaware	3	51
District of Columbia	1	33
Florida	21	483
Georgia	30	938
Idaho	57	1,530
Illinois	247	7,285
Indiana	109	2,999
Iowa	118	3,021
Kansas	65	2,009
Kentucky	29	851
Louisiana	7	212
Maine	37	856
Maryland	46	1,421
Massachusetts	329	8,210
Michigan	196	5,099
Minnesota	261	6,375
Mississippi	16	484
Missouri	100	2,658
Montana	66	1,620
Nebraska	78	1,995
Nevada	—	30
New Hampshire	92	2,221
New Jersey	174	4,885
New Mexico	3	92
New York	891	24,448
North Carolina	48	1,245
North Dakota	30	938
Ohio	815	18,227
Oklahoma	26	814
Oregon	90	2,716
Pennsylvania	460	14,169
Rhode Island	19	548
South Carolina	24	901
South Dakota	33	889
Tennessee	26	693
Texas	45	1,269
Utah	37	826
Vermont	37	797
Virginia	25	715
Washington	214	5,339
West Virginia	39	1,260
Wisconsin	161	3,981
Wyoming	5	147
Canada	381	8,763
China	1	15
Totals	6,071	159,083

Never in the history of our country have school children been called upon to contribute to so many projects, and so continuously, as of late. The campaign in the schools for War Saving Stamps, for membership in the Junior Red Cross, seeds for war gardens, and other war activities, have been tremendous. Giving continually to these most worthy causes has had a very decided effect on the enrollment of the Junior Audubon members. Scores of teachers have reported that they found it absolutely impossible to collect the 10 cents necessary for the Junior fees.

In one large school building in the Middle West, a teacher who had asked that the children in the various grades bring their

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Audubon fees to send in on a certain date, found when she went to collect them that the children had brought their money, but that at the last moment the principal of the school had instructed them to give this money to the Red Cross.

This is only one of many instances of a more or less similar character. As a result of these causes, enrollment of the Junior members showed a marked falling off from the year previous when the number reached the high-water mark of 261,654.

This work with the young people was made possible by the following contributions:

Unnamed Benefactor	$20,000 00
Mrs. Russel Sage	2,500 00
General Coleman duPont	1,000 00
George Eastman	1,000 00
Mrs. Frederick H. Alms	250 00
Mrs. E. B. Dane	200 00
James H. Barr	100 00
Mrs. T. J. Emery	100 00
Richard M. Hoe	100 00
Edward L. Parker	100 00
Mrs. Elbridge Torrey	100 00
H. O. Underwood	100 00
Miss Edith G. Bowdoin	50 00
Miss Mary Drummond	50 00
Albion E. Lang	50 00
E. W. Mudge	50 00
Miss Mary Mitchell	50 00
Mrs. Dudley L. Pickman	50 00
Miss Mary I. Corning	25 00
Mrs. Denning Duer	25 00
John R. MacArthur	25 00
Mrs. John C. Phillips	25 00
W. E. Roosevelt	25 00
Mrs. Ezra R. Thayer	25 00
Mrs. William H. Reed	20 00
John D. Williams	20 00
Miss Louise W. Cate	10 00
F. Coit Johnson	10 00
Mrs. C. R. Sanger	10 00
Miss Rosina C. Boardman	5 00
John I. D. Bristol	5 00
Total	$26,080 00

New Life Members

Enrolled from May 1 to July, 1918.

Baldwin, S. P.
Dunbar, F. L.
Harriman, Mrs. J. Low
Huntington, Howard
Lancashier, Mrs. J. H.
Lippitt, Mrs. C.
Merriam, A. Ware
Rumsey, Mrs. Charles C.
Speed, Mrs. J. B.
Warren, Mrs. E. Walpole
Watt, Mrs. Henry C.

During the same period there were also enrolled 114 new sustaining members and 23 new contributors.

Contributors to the Egret Fund

May 1 to July 1, 1918

Previously acknowledged	$2,641 25
Anderson, F. A.	3 00
Anderson, Miss M. B.	3 00
Auchincloss, Mrs. H. D.	5 00
Audubon Society of Skaneateles	5 00
Ballantine, Mrs. Robert F.	25 00
Biddle, Elizabeth, Caroline and Clement M.	5 00
Bishop, Miss Abigail H.	5 00
Breed, S. A.	2 00
Brewster, Mrs. Benjamin	10 00
Carroll, Elbert H.	10 00
Case, Mrs. James B.	10 00
Cochran, J. D.	5 00
Conner, Miss M. A.	5 00
Curtis, Clara K.	2 00
Cushing, Miss Margaret W.	1 00
Evarts, Miss Mary	5 00
Garst, Julius	3 00
Henderson, Alexander	2 00
Hessenbruch, Mrs. H.	5 00
Hupfel, J. C. G.	5 00
Lang, Henry	5 00
Levey, W. Charlesworth (In Memoriam)	5 00
Lewis, Mrs. August	10 00
Luttgen, Walther	5 00
Mansfield, Miss Helen	2 50
Marsh, J. A.	5 00
Mason, Mrs. George G.	10 00
Mosle, Mrs. A. Henry	5 00
Pennoyer, Mrs. P. G.	5 00
Potter, Hamilton F.	3 00
Raht, Charles	5 00
Redmond, Miss Emily	10 00
Richard, Miss Elvine	15 00
Roesler, Mrs. Edward	2 00
Sampson, Miss Lucy S.	1 50
Stewart, Mrs. Edith A.	10 00
Turnbull, Sarah A.	2 00
Upham, Miss E. Annie	1 00
Wagner, W. A.	5 00
Walker, Mrs. A. H.	5 00
Warfield, Mrs. W. S., Jr.	5 00
Watrous, Mrs. Elizabeth	1 00
Whiteside, T. H.	5 00
Willis, Miss Adeline	15 00
Wright, Mrs. William P.	5 00
Total	$2,900 25

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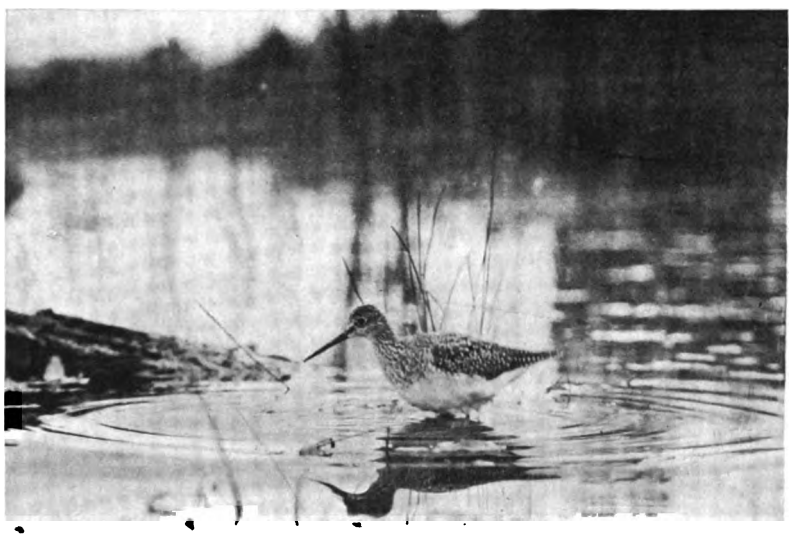

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Bird-Lore

September-October, 1918

CONTENTS

GENERAL ARTICLES PAGE

FRONTISPIECE IN COLOR. HORNED LARKS.....*Louis Agassiz Fuertes*..

THE OVEN-BIRD IN MINNESOTA. Illustrated.....*Thomas S. Roberts*.. 329

A DAY'S SPORT WITH THE REDBACKS AND GREATER YELLOW-LEGS. Illustrated. *Verdi Burtch*.. 335

A TRAGEDY.....*Louise Foucar Marshall*.. 338

NEST AND EGGS OF BLACK DUCK. Illustrated..... 341

SOME NOTES ON THE RUFFED GROUSE. Illustrated.....*H. E. Tuttle*.. 342

THE MIGRATION OF NORTH AMERICAN BIRDS. VI. HORNED LARKS..*Harry C. Oberholser*.. 345

NOTES ON THE PLUMAGE OF NORTH AMERICAN BIRDS. Illustrated. Fiftieth Paper... *Frank M. Chapman*.. 349

NOTES FROM FIELD AND STUDY..... 351

MEMORIES OF THE PASSENGER PIGEON, *Hibbard J. Jewett;* NOTES FROM CANANDAIGUA, N. Y., *Georgia B. Gardner;* MOCKINGBIRD IN IOWA, *Mrs. John Freeman;* FEEDING THE BLUE JAYS (Illustrated), *A. J. Dadisman;* NIGHTHAWK IN NEW YORK CITY, MARCH 28, *Roy Latham;* ARE STARLINGS AS HARDY AS ENGLISH SPARROWS? *Stewart H. Burnham;* TWO CORRECTIONS, *The Editor;* HOUSE SPARROWS ROBBING ROBINS, *Thos. S. Roberts;* AN OREGON ORIOLE, *Ella Getchell;* MEMORIES OF A RAINY DAY, *Howard K. Gloyd, Ottawa, Kans.;* WILD-FOWL OF THE SUSQUEHANNA FLATS, *H. H. Beck.*

THE SEASON. IX. June 15 to August 15, 1918..... 359

Glover M. Allen; John T. Nichols; Julian K. Potter; Harry C. Oberholser; Thomas S. Roberts.

BOOK NEWS AND REVIEWS..... 362

THE ORNITHOLOGICAL MAGAZINES.

EDITORIAL..... 363

THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT..... 364

PRESENT AND FUTURE RESPONSIBILITIES, *A. H. W.;* JUNIOR AUDUBON WORK, *A. H. W.;* FOR AND FROM ADULT AND YOUNG OBSERVERS.

EDUCATIONAL LEAFLET No. 97. LEAST TERN. With Colored Plate by Bruce Horsfall *T. Gilbert Pearson*.. 380

THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT..... 384

ANNUAL MEETING; A REDDISH EGRET COLONY IN TEXAS; MIGRATORY BIRD TREATY ACT; MIGRATORY BIRD TREATY ACT REGULATIONS.

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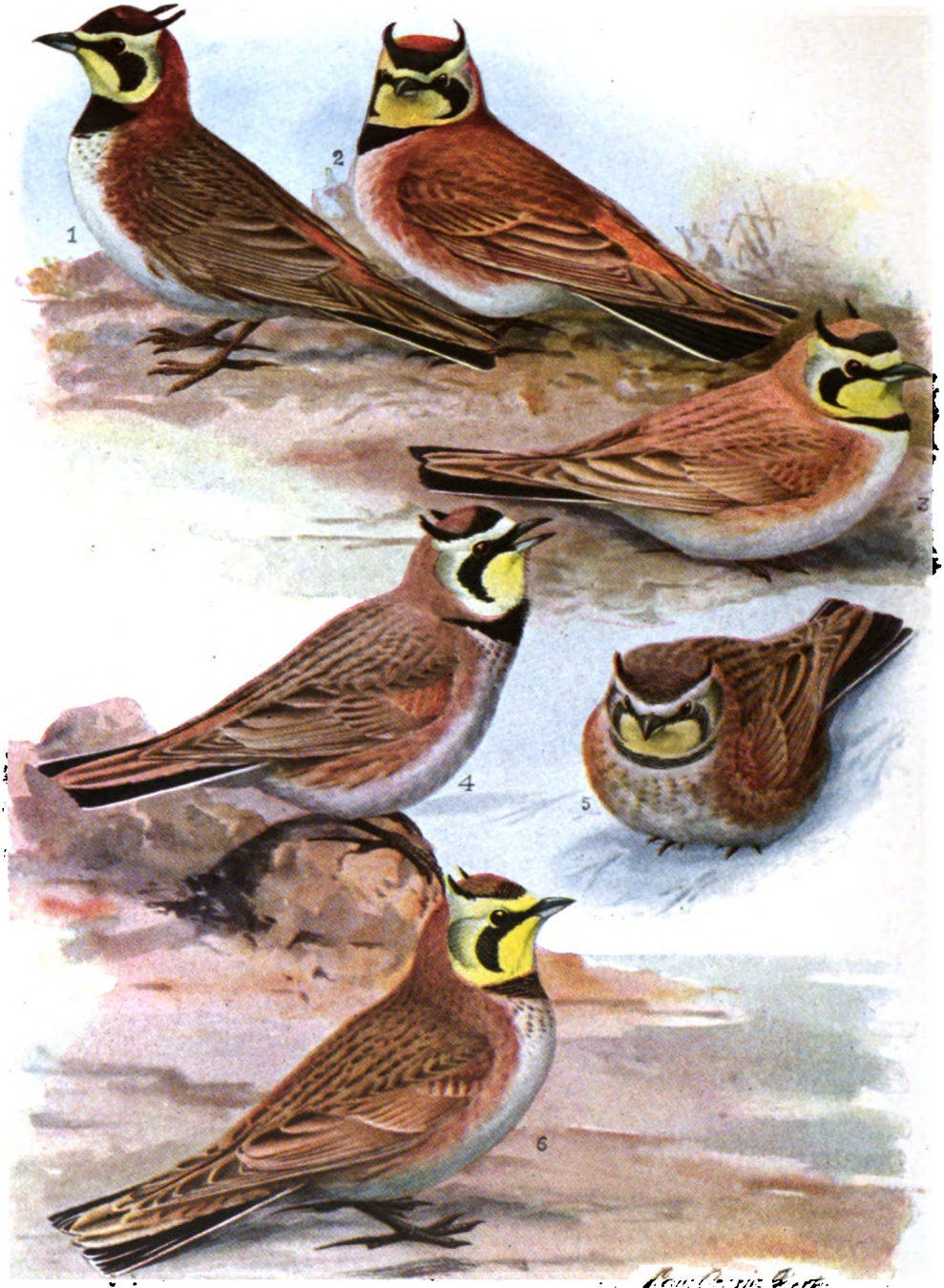

1. ISLAND HORNED LARK
2. RUDDY HORNED LARK
3. BLEACHED HORNED LARK
4. PRAIRIE HORNED LARK, Summer
5. PRAIRIE HORNED LARK, Winter
6. HORNED LARK

(One-half natural size)

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XX SEPTEMBER—OCTOBER, 1918 No. 5

The Oven-bird in Minnesota

By THOMAS S. ROBERTS, M.D., Minneapolis
With photographs by the Author

SOME years ago, while strolling quietly, on the last day of September, by a long since abandoned and overgrown wood-road that skirted one of the back bays of beautiful Lake Minnetonka, I startled from the path a small, dull-colored bird. It flitted silently to a tangle of fallen branches not far distant in the thick underbrush. Following carefully, and peering intently, glass in hand, I soon discovered the unknown, creeping cautiously away. Its prettily banded head and its dainty, mincing walk disclosed at once its identity. Carefully it went over the soft, new-fallen leaves, availing itself now and then of a half-buried log or branch as a convenient pathway, until, believing itself concealed behind a little tuft of faded ferns and twigs, it paused, ever eyeing me intently through the netlike interstices of the tangled growth that intervened between us. Without the glasses it was entirely invisible, but with their aid the suspicious little eye, with its lighter setting, revealed the whereabouts of its always anxious owner. Thus we stood for some time, silently studying each other. Goldencrown wearied first, or, becoming reassured, resumed his pretty walk, this time more openly and rapidly, until at last he took wing and, by short flights from bush to bush, passed out of sight and away from the fancied danger. His crown was bright and his plumage fresh, suggestive of springtime, but the fall woods, with their eddying leaves and odor of decay, were silent and, despite his presence in their midst, no longer reverberated with his ringing crescendo or knew his wonderful flight-song. These fading woods and shortening days and chilling winds that make life hard and dangerous, warn him that it is time to hie himself away to that far southern home where, with spirit tamed and pipe not attuned, he awaits in silence fresh promptings to begin life anew. When the warmer suns and softer winds of the late vernal season have again made green and joyous and fragrant the wooded hillsides in the Northland, he will come once more with quickened pulse and swelling breast and instinct wild that will send him madly chasing in hot pursuit amid the

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bursting trees, impelled by a spirit of ecstatic love that finds vent ever and anon in as joyous and triumphant and melodious an outburst as the wild woods know.

Such is the Oven-bird or Golden-crowned 'Thrush' or Accentor or 'Teacher Bird,' as it is variously called. A plain, modest little bird, shy and suspicious in the presence of man; a lover of the deep woods, from the protecting shades of which it rarely ventures; often heard, seldom seen, except by the initiated; a graceful walker instead of a hopper; and possessed of a voice and exuberance of spirit during courting-time that marks it among its fellows. Difficult as it

NEST OF OVEN-BIRD AS FOUND. BUILT, IN THIS INSTANCE, OF FINE GRASSES

may be, time is well spent by the bird-lover in making the intimate acquaintance of this phantom bird of the woodland depths.

The Oven-bird comes to southern Minnesota about the end of the first week in May, sometimes a little later, less frequently a little earlier. Two April records in 1884, one from Red Wing and one from Lanesboro, are very unusual, and that same year it was not reported from Elk River until May 10. The 'teacher' song commonly comes from the budding spring woods just as they are thickening sufficiently to cast their first faint shade upon the newly opened bellworts, wood anemones, and yellow violets below, and usually on the very day that the rich notes of the Rose-breasted Grosbeak and Baltimore Oriole and the cheery song of the House Wren are first heard in the land. The main

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Warbler wave is still a little way behind, though spring must be well assured before the Oven-bird ventures to appear. If the data at hand are to be relied upon, its progress northward is unusually slow, for ten days or two weeks elapse before it reaches the Canadian boundary. It is an abundant breeding bird everywhere in the wooded portions of the state. Farther northward many individuals penetrate the fur countries, even to Hudson Bay and westward to Alaska, while eastern Canada and Newfoundland are the summer home of the far travelers through the eastern states. The courting season is as brief as it is ardent, for during ordinary seasons mating is accomplished, nests built, and eggs deposited by the third week in May, in the vicinity of Minneapolis.

THE SAME NEST, OPENED TO SHOW THE TWO EGGS OF THE OWNER AND THREE OF THE COWBIRD

The nest is always on the ground, more or less buried beneath fallen leaves and withered grasses, and is usually in a little opening in the forest or along a trail or abandoned wood-road. As Frank Bolles says in his pretty poem about this bird:

"To the forests, to the leaf beds,
Comes the tiny oven builder.

"Daintily the leaves he tiptoes;
Underneath them builds his oven;
Arched and framed with last year's oak leaves,
Roofed and walled against the raindrops."

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The nest is constructed of dead leaves, dry grasses, and slender weed-stalks, sometimes almost entirely of one or the other material; the lining is fine grass, rootlets, and hair. It is completely roofed over, spherical or short cylindrical in outline, and is entered by an opening in one side, thus resembling a miniature Dutch oven, whence the common name of the bird. As it forms only a slight and inconspicuous mound above the general leaf-bed, it is almost impossible of detection unless the bird is flushed from the nest. Seeming to realize her security, the mother bird is a very close sitter and will not fly until almost stepped upon. Then, if the eggs are near hatching or there are young in the nest, she will often flutter out and run away over the ground with trailing wings and complaining note, feigning injury, in the hope of enticing the intruder from her treasures in a vain chase after herself. This same ruse is also resorted to for some days after the young have left the nest, if their retreat be intruded upon.

The eggs are three to six in number, commonly four; they are white with chestnut and lilac-gray markings, sometimes small and evenly distributed, at other times more or less aggregated about the larger ends, forming irregular blotches and occasionally wreaths. The acuteness of the Cowbird as a nest-hunter is shown by the frequency with which its eggs are found beside those of the Oven-bird. Indeed, in my own experience it has been an unusual thing to find an Oven-bird's nest without one or more of the parasite's. Two or three alien eggs, besides an equal number of the owner's, are often found. A friend reports finding an Oven-bird incubating two eggs of her own and three of the Cowbird, but when a fourth Cowbird's egg was deposited the affront was too great, and she deserted the nest. As many as five in one nest have been reported.

The ordinary song by which the Oven-bird commonly announces his presence in the woods is an emphatic, ringing series of notes, beginning low and deliberately, increasing in pitch, intensity, and rapidity of utterance until it ends with a vigor that sends the last notes echoing among the tree-tops. Mr. Burroughs' happy rendering of this song long ago in 'Wake Robin' has ever since met with the approval of nearly all writers and has given to the species its name of 'teacher-bird.' When one of these birds starts to sing in the quiet of the deep woods, it is at first difficult to locate him, as the song has a marked ventriloquous character, caused, perhaps, by the great increase in intensity as the song proceeds. To quote Bolles again:

> "Strange, ventriloquous his music,
> Far away when close beside one;
> Near at hand when seeming distant;
> Weird his plaintive accrescendo."

But the Oven-bird has another very different utterance which is its true song—its love or passion song. It is known to but comparatively few, though some observers believe that in proper season and place it is to be heard as often

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as the crescendo call. It has been stated that it is delivered only at nightfall and above the tree-tops, but this is not quite true, for it may be heard in deep, damp woods in the height of the love season at any hour of the day, as the impetuous lover pours it out in snatches of variable length as he goes dashing about under the forest canopy. When thus delivered it may either be preceded or followed by the 'teacher' call; most frequently, however, these fragments are given alone. It is always uttered on the wing, and it is probable that in its

THE OVEN-BIRD AT HOME

full development it is always an accompaniment of a soaring flight above the tree-tops. Lynds Jones says ('Warbler Songs,' 1900): "I have seen the Oven-bird suddenly vault into the air, mounting to the tree-tops on quivering wings, then dart back and forth in a zigzag course swift as an arrow, and finally burst into a song as he floated gently down. The song seems to swing once round a great circle with incredible swiftness, but perfect ease, ending in a babbling diminuendo as the performer lightly touches the perch or ground with half-rigid wings held high." I have seen the Oven-bird, early in July, thus disporting itself of an evening above the cathedral-like, terraced spires of the tall

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spruces on the west shore of Lake Itasca, mingling its dashing melody with the wonderful, serene anthems floating down from the Hermit Thrushes perched aloft in the great pines. Ernest Thompson Seton ('Birds of Manitoba,' 1890) states that "this lark-like song may be heard at almost any time of the night in the grove where a pair of these birds have settled for the love season;" and Bolles relates:

"When the Whip-poor-will is clucking,
When the bats unfurl their canvas,
When dim twilight rules the forest,
Soaring towards the high star's radiance,
Far above the highest tree-top,
Singing goes the sweet Accentor.

The middle of July closes the song-season, and thereafter the Oven-bird is rarely observed.

Most of the Oven-birds leave during the month of September, and by the close of that month only stray individuals, like the one mentioned at the beginning of this article, are to be encountered. They are then wending their way leisurely to their winter abode in Mexico, Central America, the West Indies, and southern Florida.

"TERRACED SPIRES OF THE TALL SPRUCES ON THE SHORES OF LAKE ITASCA."

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RED-BACKED SANDPIPER

A Day's Sport with the Red-backs and Greater Yellow-legs

By VERDI BURTCH, Branchport, N. Y.
With photographs by the Author

OCTOBER had arrived with its reds, golds and browns; the day was warm and mellow. It was the thirteenth of the month, and the most of the birds had already passed on to the southward. The soft, muddy shores of the marsh, where a month ago numbers of Solitary, Least, Semipalmated, and Pectoral Sandpipers, Yellow-legs, Killdeers, Semipalmated Plover, Green Herons, Mourning Doves, Grackles, Cowbirds, Red-wings, Robins, and a host of Song, Swamp, and Savannah Sparrows were feeding was now almost deserted. Only in the early evening did it show signs of its former activity, when the Red-wings, Cowbirds, and Grackles stopped there to get a lunch before retiring to their roost in the cattails. But during the day only a few Pectorals and Yellow-legs that had escaped the gunners were seen.

It was much too nice a day to loaf around home, so, taking my Graflex, I mounted my bicycle and rode two miles down the lake to a small marsh which is cut off from the lake by a long gravelly bar. Earlier in the season this marsh is very beautiful, with its great masses of yellow water-lilies and floating algæ all through the center, and sedges, cattails, great burr reed, sagittaria, sweet flag, and water plantain reaching out from the shores into the shallow water. But at this time the water was low, leaving wide, muddy shores which were covered with the stranded algæ and various water-weeds.

As the shooting season was on and most of the shore-birds were gone, I

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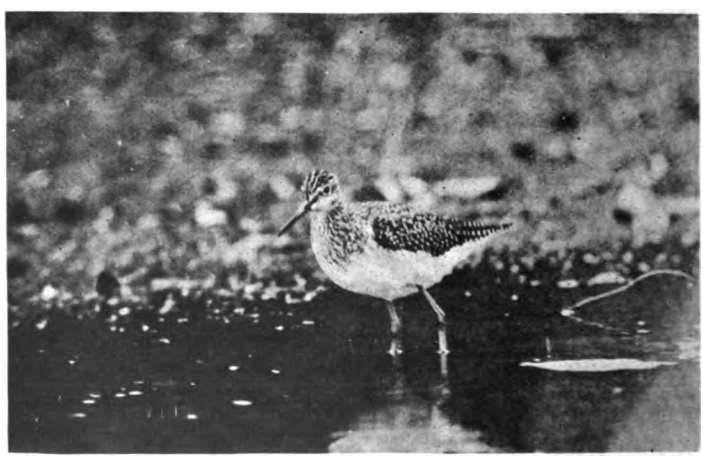
hardly expected to see any birds, or, at most, one or two watchful Yellow-legs or Pectorals. But, as I neared the swamp, three Red-backed Sandpipers were feeding along the shore of a little shallow lagoon. Dismounting, I worked my way slowly through the bushes and cattails on the border of the swamp and obtained my first shot when they stood in a row facing me from the opposite side of the little pond. They had seen me, however, and began to move off, slowly. Cautiously following and expecting them to fly every moment, I made two more shots as they were in retreat and was rather surprised that they did not fly. As they were now well aware of my presence, I crossed boldly in the open and sat down on the clean gravel of the bar where I could watch their every move. They went calmly on with their feeding, working back and forth in front of me, probing in the mud with their long, black, slightly curved bills and seemingly ignoring my presence. However, when they passed they would shy out around me, watching me closely from the tails of their eyes. I had been seated but a short time when I heard the soft, musical whistle of a Greater Yellow-legs, and it came wheeling down from the upper air and alighted gracefully on the beach some ten rods away. There it stood, bowing with quick little jerks and eyeing me suspiciously for a

MARSH HAWK



GREATER YELLOW-LEGS

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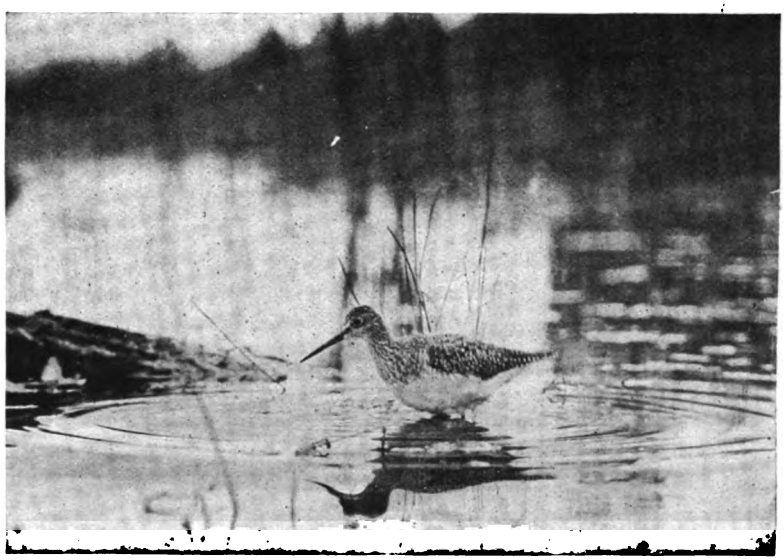
moment, and then flew away, to alight farther up the beach, then, seeming to gain confidence it began to work toward me. Never having been able to photograph this wary bird, and expecting that it would fly away, I wasted several plates on long shots, but it came steadily on and joined the Red-backs scarcely a rod away from me. Many times before had I tried to photograph a Yellow-legs but without success, and now as it mingled with the Red-backs I had my chance. It was not a question of getting near enough, but rather of catching a good pose and of getting one bird out alone or all of them in the same plane so they would all be in good focus. Always active, with little jerky moves, the Red-backs went about probing in the soft mud or wading out in the shallow water and sometimes swimming a little. The Yellow-legs was more deliberate but always moved with infinite grace. One of the most graceful moves of a bird is the stretching of the wings by a Yellow-legs or Solitary Sandpiper, and some day I hope to catch it on a photographic

MARSH HAWK PURSUED BY RED-WINGED BLACKBIRD



GREATER YELLOW-LEGS "MAKING RINGS OF RIPPLES IN THE QUIET WATER"

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plate. Before noon I had used all of my dozen plates, and when I left the beach the birds were quietly feeding.

When I came back with plate-holders reloaded, they were still there, and I took my position on the bar without disturbing them. The Red-backs always kept close together, so all show in each of my pictures, except one. This time they all came along the beach toward me, hesitating as they drew near, then made a detour out into the water, filing past in front of me and so close that I could hardly rack my lens out far enough to get them in sharp focus.

The Yellow-legs kept mostly to the little lagoon close inside the bar where it scampered zigzag after the minnows or pollywogs, or probed in the muddy bottom, causing rings of ripples in the quiet water.

As the shadows lengthened across the clear waters, I used my last plate, but still I was loth to leave. I had spent more than seven hours with these interesting birds, and made twenty-four shots, and, as development afterward proved, had bagged fifteen beautiful pictures, and my game was still alive to enliven the shores of other lakes and marshes, and let us hope that they reached their winter homes in the far South without accident.

A Tragedy

By LOUISE FOUCAR MARSHALL, Tucson, Ariz.

THE House Finch bride stood for a moment on the fig tree before taking a drink from the bucket of water under the dripping faucet. Perhaps it was a Hummingbird, poised before a rosebud, or a Wren slipping in and out of the rose-vine, that persuaded her to fly over and investigate. A little spot at an intersection of the trellis, hidden by rose-leaves, seemed an ideal building-site. She started immediately to homestead it by bringing in a few sticks which she arranged for the bottom of her nest, unmindful of the fact that the trellis was but eight inches from the porch window, and that her nest, just at a convenient height, had no protecting leaves to shield it from full view from within the porch.

The next morning (March 28, 1917) she came again, and with little twigs built up half of the skeleton framework of her cuplike nest. She worked until noon, alone and untiringly, her mate sitting on the fig tree singing his delight. Then they disappeared until evening, when she came to see if all was well. The next morning she was at work again. The place seemed more enchanting than ever, for there were strings cut at various lengths hanging all about the trellis, and wonderful buds of cotton-wool on the rose-thorns; even a few stray horsehair and downy chicken feathers were miraculously convenient. She toiled until noon finishing the framework, now using sticks, strings, and horsehair. Before bedtime she came to see that nothing had been disturbed.

The third day she worked from morning till night, strengthening the frame-

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work with twigs and string, stuffing the little cracks and hollows with wool and feathers, covering every rough twig. Many times during the day she would slip into the nest to try it, that it should be the right shape and size and height. This seemed an important part of her work, for after these trials she would remedy some defect, working and weaving with the materials already in the nest. She now evidently considered the nest finished, as she came but few times during the next few days, then only putting in a few downy feathers or adjusting the cotton-wool lining. She built her nest entirely alone, her mate coming no nearer than the fig tree, where he sat singing incessantly while she was at work.

On the morning of April 3 she came early and sat quietly on the nest, her mate as usual singing lustily from the nearby fig tree. About 7.30 she hopped from the nest, calling loudly for her mate, every fiber of her body aquiver with excitement. He came like a shot, embraced her with great fluttering of wings and excited twitterings, and then they looked into the nest. Wonder of wonders! A pale bluish green egg with a few dark brown spots and lines at the larger end. She went on to the nest, twittering snatches from lullabies, while he went back to the tree to tell the world of the great event. Was there ever so much excitement, tenderness, and romance contained in such a little scrap of flesh and blood! In about an hour they both left, returning two or three times during the day to look at the wonderful egg.

The next morning she was on the nest again, and at 8.15 she called her mate to see the second egg; and after sitting for a half hour upon the eggs, twittering and crooning, she left with her mate, returning from time to time to admire her eggs. The next day at about 9.15 the third egg was laid, and the program of the previous days repeated. The fourth and last egg, which was a trifle smaller than the others, was laid the next morning at 8 o'clock.

Each time that she laid her egg she called her mate with excited, urgent chirps. Always he came like the wind from his perch nearby; always they met with fluttering of wings, twitterings, and embraces before flying up to the nest to inspect the eggs; always, after the inspection, she would sit on the nest for about a half hour, whispering and twittering, while her mate was announcing the good news to the bird-world and singing his gratitude and joy to his little bride.

After the fourth egg was laid she settled down to incubate, calling her mate every few hours, and then with a distinctly different note asking for food. She always hopped off the nest to meet him whenever he came to feed her. If he saw anyone approach the rose-vine, or when within the porch we would come near the window, he would allay her fears with encouraging messages and she would answer with brave little chirps.

On the afternoon of April 8 a severe windstorm came up, with a downpour of rain and hail. She was exceedingly frightened at the violence of the wind and the large hailstones striking her nest and herself. She called anxiously;

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her mate came and sat beside the nest during the whole storm, sat in an unsheltered spot in the very teeth of the gale, bruised by the hailstones and wet to the skin. After the storm was over and the sun came out again, he perched in the tree, drying his feathers; she called to him; he tried to sing his little roundelay, but only two notes came. The next morning his cold, lifeless body lay beneath the fig tree. The rain and hail and cold had proved too much, and his love and devotion to his mate had cost him his life.

It took some time before the little bride realized that she was now a widow. In the morning she began calling, insistently, impatiently, then anxiously, and finally hopelessly. Whenever she saw a scarlet-capped Finch come to the drinking bucket she would call to him and fly into the fig tree voicing her hunger and sorrow. Many, many times during her days of incubating did she fly out with her tale of hunger and grief, but never was there a response from the passing males. A little food-shelf with canary seed and bread-crumbs was hung near the nest, but only twice was she seen to eat anything. Every day she grew weaker and more dejected. Could she hold out until the eggs were hatched?

Ten days had passed since she began incubating, and there seemed no hope for those four eggs, for they had often been chilled, as the weather was unusually cold; and did not Coues say that eggs were usually kept at a temperature of 100 degrees and hatched in about ten days? Fortunately she had not read about it and stayed on her eggs until the thirteenth day, when one little bird emerged from the shell; the next day two more came out to gladden the little mother's heart, for she who was always so chatty, always twittering and bubbling over with joy, had become sad and silent, and even when the little birdlings came her broken heart could whisper no welcome, only feed them and keep them warm.

On the second day after the little ones were hatched she met another mate on the fig tree by the water bucket, a somber, joyless mate. Perhaps he, too, had suffered until his voice was silenced, or perhaps his sense of duty or his bereavement impelled him to feed the widow and orphans. For two days he silently fed both mother and babies, and then during the night something happened,—for in the morning the nest was empty—no trace of birdlings or mother. No doubt she, too, shared the same fate as her family, for she never returned. The falling rose-leaves have filled the nest, and the rose-vine is deserted.

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NEST AND EGGS OF BLACK DUCK
Photographed April 12, 1914, at Ponkapog Pond (about 10 miles from Boston) Mass.

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Some Notes on the Ruffed Grouse

By H. E. TUTTLE, Simsbury, Conn.

OVER the ridge that brimmed the glade a hen Partridge was hurrying. She did not walk with noiseless step nor did she keep a constant watch for possible enemies. Her footsteps on the dry leaves rustled loudly; her head swung forward and back as she walked, like a barnyard fowl. Twice she stopped, but only for a moment, then the noise of pattering footfalls began again as she ran toward a laurel thicket that flanked the glade. The glade was a bowl-shaped hollow, free from underbrush, with here and there a good-sized chestnut tree. On one side was the laurel thicket, interspersed with birches, behind which rose the steep sides of the bowl. One might have said that it was an amphitheatre set for a play, and not have greatly erred.

The only spectator was lying flat beneath the low-spreading fronds of a young hemlock which grew near the laurels, halfway up the bowl. He held a bit of cord gripped tight in his hand, and in spite of his difficult position on the hillside he did not move. He had lain there four hours. Had you been there to see, you would have noted, on following up the length of cord, a bunch of leaves supported by a three-legged branch. The bunch of leaves was a camera, the three-legged branch a tripod.

The Grouse had reached the laurels and had stopped within their shade to reconnoitre her position before traversing that last ten feet in the open, to the spot that had claimed her sole attention for the past half month. The nest with her ten eggs lay in the hollow at the foot of a little rotted stump. It faced the open woods, and in front stood the three-legged bunch of leaves, with its baleful glass eye glaring down into the hollow. The bunch of leaves, like a Cyclops, had stood guard over the nest for a week, and the hen Partridge had begun to regard it as a natural part of the scenery. She was a bit timid still; sometimes as the cord tightened she spread her tail and with ruffs extended hissed into the glass eye, while, unknown to her, the spectator under the hemlock frond was hoping and praying that she would step back into focus.

This time she stepped out of the laurel thicket with just a touch of defiance in her pose. The watcher from where he lay lost sight of her after she went under the stump, so that his shots were in a large part lucky, if they were in any way successful. He saw her disappear under the stump, threw a loop of slack down the cord in the hope of provoking a new pose, then drew it tight. The shutter clicked, and the Grouse ran out from the stump and roared up in flight.

I had been trying for two days to secure a picture of the Ruffed Grouse as she approached her nest. It was quite easy to snap the brooding bird; that merely involved leaving the camera for an hour, to return at the end of that time and pull the shutter by means of a long thread. I had secured some good pictures in that way a week previous. This new game, although it included

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mosquito-bites and personally conducted tours by ants, was more fraught with failures, but more exciting.

I was very much surprised when I first saw this hen return to her nest, her footsteps were so noisy. She was not at all the 'each-step-taken-with-care' kind of bird that I had always pictured. She reminded me very much of a broody

RUFFED GROUSE
Photographed by H. E. Tuttle

Plymouth Rock. (Later observations have persuaded me that individual birds differ very greatly in this. One Grouse that I watched and photographed last spring approached her nest so cautiously that I was unable to detect her slightest footfall until she had approached within ten feet of the spot where I was hiding.) I watched her for an hour one day as she budded a poplar tree, climbing parrot-like from limb to limb with the aid of her stout beak, nearly losing her footing on more than one occasion as she reached for a catkin high

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above her head. I watched how, when the camera was pointed a little to the left of the nest, she invariably entered on the right, and vice versa. She apparently appreciated the territory swept by the lens.

Once when I had seen her approach as far as the laurel thicket and had heard no further footsteps for half an hour, I pushed aside the hemlock branches to see, if possible, what had frightened her. There was a rush of air through stiff wing-quills as I showed myself, and a Red-shouldered Hawk left the dead limb where he had been sitting, to wing his way swiftly out of the woods. At another time I surprised a fat woodchuck within a yard of the nest. Whether he intended harm or not I do not know, for he beat a hasty retreat before I could satisfy my curiosity. I watched this Grouse in her efforts to overcome her fear from 11 o'clock in the morning till 3 o'clock in the afternoon, and out of four shots got one good picture. She was not absent from her nest during this entire time, for in order that the eggs should not get cold and that she might acquire confidence, I allowed her to brood at intervals. The weather was warm and the eggs were due to hatch in a few days. (It seems necessary to note here that all the eggs hatched in due course of time.)

I have, in the not very remote past, walked the crisp autumn hillsides with my gun held in readiness, and, though a poor shot, have enjoyed my occasional kills with the pleasure of an amateur and the ensuing repertoire of a veteran; but birds are scarcer now, and the Ruffed Grouse, even in districts where it could for years wage an equal battle in the fight for existence, must inevitably go the way of the Heath Hen and the Prairie Chicken, unless, in addition to laws adequate to protect it and an honest effort to enforce them, there is a will to abide by the closed season which shall become part of the traditions of every man who calls himself a sportsman.

As the bird disappears from the coverts that knew it of old, the salt of shooting loses its savor, and there is little pleasure in exchanging the roar of its wings as it bursts from cover and rockets upward through the birch-tops, or bores its way, bullet-like, through a tangle of underbrush, for the fading colors of a reminiscence. For the Ruffed Grouse is an inspiration; his spring drumming wakes the old desires toward a life in the open, and the roar of his wings among the dry leaves of the November woods quickens with secure delight the hearts of wayfarers on the upland trails.

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The Migration of North American Birds

SECOND SERIES

VI. HORNED LARKS

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

The Horned Larks are among the most puzzling as well as most interesting of North American birds. They are the only native Larks in North America, but have not the usual gift of song that has made famous some of the European members of the family. All the American Horned Larks belong to a single species and exhibit geographic variation to a degree shown by few birds. No less than twenty-three subspecies of *Otocoris alpestris* inhabit America, and they range as far south as Bogotá in Colombia, and north to the Arctic Ocean. All but five of these forms occur in North America proper, and there are others to be described. The distribution of the North American races is as follows:

The Horned Lark (*Otocoris alpestris alpestris*) breeds in northeastern North America, north at least to Hudson Bay; west to Hudson Bay; south to the southern end of James Bay and to Newfoundland; and east to Labrador. It winters west to Manitoba and Nebraska, south to Louisiana and South Carolina; and is of casual occurrence in Greenland and the Bermuda Islands.

Hoyt's Horned Lark (*Otocoris alpestris hoyti*) breeds in middle northern Canada, north to the Boothia Peninsula; west to the valley of the Mackenzie River; south to Lake Athabaska; and east to Hudson Bay. It winters south to Nevada, Kansas, Ohio, and Long Island, N. Y.

The Pallid Horned Lark (*Otocoris alpestris arcticola*) breeds in northwestern North America, north to northern Alaska; west to western Alaska; south to southern Alaska and central British Columbia; and east to Yukon Territory. It ranges in winter south to Oregon, Utah, and Montana.

The Saskatchewan Horned Lark (*Otocoris alpestris enthymia*) breeds north to central Saskatchewan; west to eastern Montana, eastern Wyoming, and eastern Colorado; south to northwestern Texas; and east to central Kansas, central Nebraska, and central North Dakota. In winter it ranges south to southern Texas, and casually west to Utah and Arizona.

The Prairie Horned Lark (*Otocoris alpestris praticola*) breeds in the northeastern United States and southeastern Canada; north to southwestern Quebec and central Ontario; west to western Manitoba, eastern North Dakota, and eastern Kansas; south to central Missouri, central Ohio, and Long Island, N. Y.; and east to New Brunswick. It winters south to Texas and South Carolina; casually southwest to Colorado and Arizona.

The Texas Horned Lark (*Otocoris alpestris giraudi*) is a permanent resident in the coast region of Texas and northeastern Tamaulipas.

The Desert Horned Lark (*Otocoris alpestris leucolaema*) breeds in the

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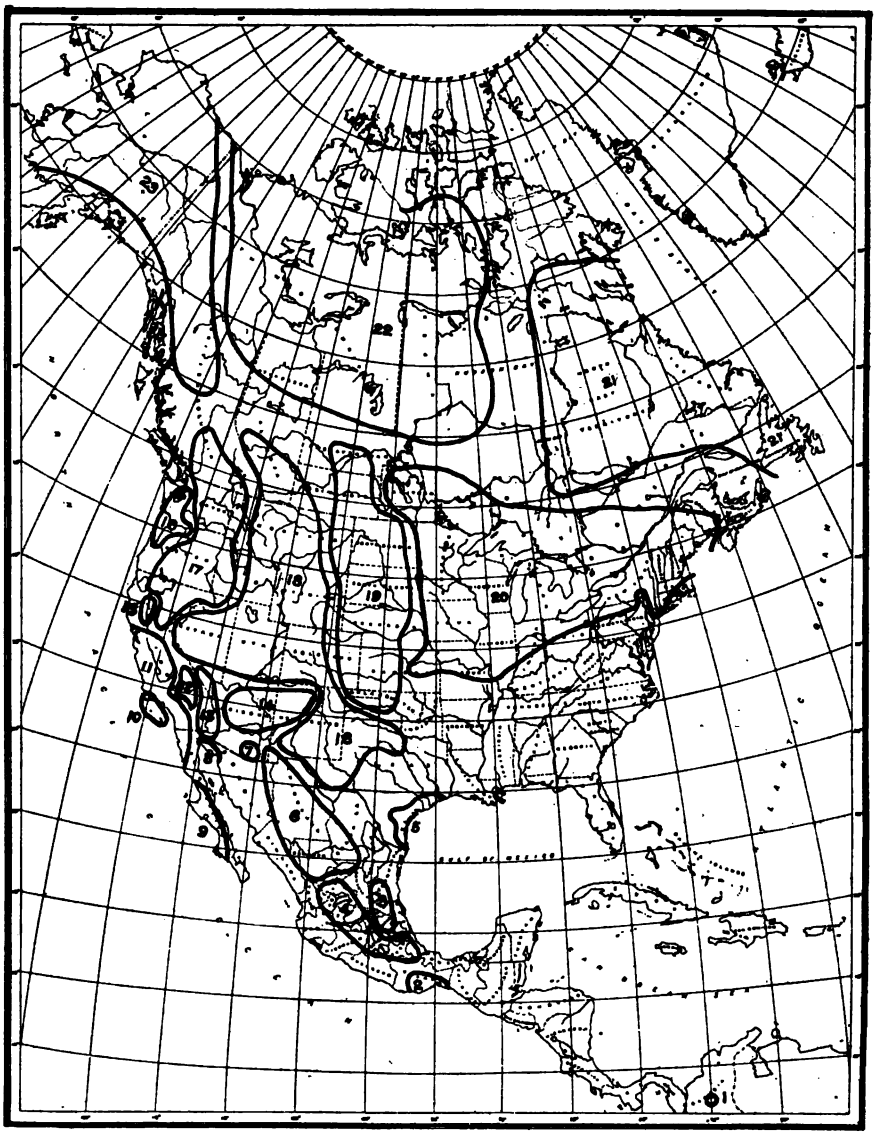

BREEDING AREAS OF THE AMERICAN RACES OF THE HORNED LARK

1. Andean Horned Lark
2. Oaxaca Horned Lark
3. Tamaulipas Horned Lark
4. Mexican Horned Lark
5. Texas Horned Lark
6. Chihuahua Horned Lark
7. Scorched Horned Lark
8. Sonora Horned Lark
9. Magdalena Horned Lark
10. Island Horned Lark
11. California Horned Lark
12. Mojave Horned Lark
13. Bleached Horned Lark
14. Montezuma Horned Lark
15. Ruddy Horned Lark
16. Streaked Horned Lark
17. Merrill's Horned Lark
18. Desert Horned Lark
19. Saskatchewan Horned Lark
20. Prairie Horned Lark
21. Horned Lark
22. Hoyt's Horned Lark
23. Pallid Horned Lark

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interior of the western United States, and north to southern Alberta; west to western Montana and western Nevada; south to south-central Nevada, southern Utah, southern Colorado, eastern and central southern New Mexico, and central western Texas; and east to central northern Texas, central Colorado, central Wyoming, and central Montana. In winter it ranges south to southeastern California, Sonora, Chihuahua, and southern Texas.

The Montezuma Horned Lark (*Otocoris alpestris occidentalis*) breeds in central New Mexico, west to central Arizona. It ranges south in winter to northern Sonora, northern Chihuahua, and central western Texas.

The Chihuahua Horned Lark (*Otocoris alpestris aphrasta*) is resident in the southeastern corner of Arizona, the southwestern corner of New Mexico, and southeast through Chihuahua to Durango and southern Coahuila.

The Scorched Horned Lark (*Otocoris alpestris adusta*) breeds in central southern Arizona and winters south to northern Sonora and northern Chihuahua.

The Bleached Horned Lark (*Otocoris alpestris leucansiptila*) is resident in the southwestern corner of Arizona, the northeastern corner of Lower California, and north through the extreme western edge of Arizona, and the southeastern border of California to southern Nevada.

The Mojave Horned Lark (*Otocoris alpestris ammophila*) breeds in southern California from the Mojave Desert north to Owens Valley, and winters south to the Mexican Border.

The California Horned Lark (*Otocoris alpestris actia*) is resident in middle and western California, north to San Francisco, and south to the Pacific side of northern Lower California.

The Magdalena Horned Lark (*Otocoris alpestris enertera*) is resident on the Pacific side of central and southern Lower California.

The Island Horned Lark (*Otocoris alpestris insularis*) is resident on the Santa Barbara Islands, Calif.

The Ruddy Horned Lark (*Otocoris alpestris rubea*) is resident in the middle portion of the Sacramento Valley in central northern California.

Merrill's Horned Lark (*Otocoris alpestris merrilli*) breeds in the northwestern United States, and north to south central British Columbia; west to central Washington and central Oregon; south to northeastern California; and east to northwestern Nevada, central Idaho, and northwestern Montana. In winter it goes as far south as central California.

The Streaked Horned Lark (*Otocoris alpestris strigata*) breeds in western Washington and western Oregon. It ranges south in winter to northern California and east to eastern Washington and eastern Oregon.

The accompanying map shows more graphically the breeding ranges of the various North American Horned Larks. Some of the western races seem to be strictly resident; but most of the others are more or less migratory; and several subspecies thus may be found at the same season in one locality. Owing to

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great seasonal and other variation among the Horned Larks, their migratory movements are in most cases impossible to trace except by the examination of specimens.

In the following tables records of the typical Horned Lark are marked (*); Hoyt's Horned Lark (†); the Pallid Horned Lark (‡); the Prairie Horned Lark (||); and the Desert Horned Lark (¶). All the other records are not with certainty subspecifically determinable.

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Greensboro, Ala.* ||			January 20, 1893
Kirkwood, Ga.*			January 20, 1893
Charleston, S. C.*			January 20, 1893
Raleigh, N. C.* ||			February 20, 1895
Raleigh, N. C.	4	February 3	February 20, 1895
French Creek, W. Va.			February 15, 1891
Washington, D. C.	13	February 25	April 7, 1889
Philadelphia, Pa.	5	March 1	March 12, 1791
Hackettstown, N. J.			March 21, 1916
New Haven, Conn.*			April 15, 1882
Portland, Conn.*	3	March 25	March 30, 1899
Providence, R. I.	11	March 9	March 31, 1900
Woods Hole, Mass.	3	April 15	April 20, 1890
Harvard, Mass.*	5	April 6	April 17, 1909
Boston, Mass.	13	March 26	April 10, 1909
Pearl River, La.*			February 22, 1895
Athens, Tenn.	7	March 26	April 26, 1909
Lexington, Ky.	2	March 24	April 8, 1906
Oberlin, Ohio*	6	March 2	April 1, 1899
Oberlin, Ohio†	3	February 18	February 24, 1904
Plymouth, Mich.*	3	February 23	March 10, 1895
Austin, Tex.	2	March 27	April 11, 1894
Lincoln, Neb.†			February 4, 1899
Cando, N. D.†			April 22, 1895
Chilliwack, B. C.‡			April 29, 1889

LOCALITY	Number of years' record	Average date of spring arrival	Earliest date of spring arrival
Scotch Lake, N. B.	17	March 6	February 7, 1908
Pictou, N. S.	3	April 10	March 21, 1894
Montreal, Quebec	9	March 8	February 23, 1913
Godbout, Quebec	4	April 9	March 16, 1888
Paradise, Labrador			April 22, 1913
Fort Simpson, Mack.‡			April 28, 1904
Fort Simpson, Mack.†			May 10, 1904
Forty-mile, Yukon‡			May 10, 1898

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FALL MIGRATION

LOCALITY	Number of years' record	Average date of last one observed	Latest date of last one observed
Ticoralak, Labrador			October 12, 1912
Scotch Lake, N. B.	6	November 2	November 27, 1913
Montreal, Quebec	10	October 30	November 15, 1908
Ottawa, Ont.	8	October 24	November 11, 1898
Listowel, Ont.	4	November 19	November 24, 1900
Ft. Simpson, Mack.			October 3, 1860
Indian Head, Sask.†			November 25, 1890

LOCALITY	Number of years' record	Average date of fall arrival	Earliest date of fall arrival
Boston, Mass.	9	October 22	October 7, 1909
Harvard, Mass.*	8	October 25	October 19, 1907
Woods Hole, Mass.	5	October 23	October 7, 1889
New Haven, Conn.*			October 29, 1888
Princeton, N. J.			November 12, 1905
Washington, D. C.	9	December 5	October 29, 1889
Washington, D. C.‖			August 11, 1889
French Creek, W. Va.	2	October 24	October 12, 1891
Raleigh, N. C.‖			December 7, 1886
Raleigh, N. C.	4	December 9	November 21, 1888
Clayton Co., Ga.‖			November 30, 1907
Ottawa, Ont.*			September 27, 1890
Isle Royale, Mich.*			September 13, 1905
Plymouth, Mich.*	3	November 15	November 13, 1891
Oberlin, Ohio*	4	December 9	November 14, 1896
Lexington, Ky.			November 12, 1904
Athens, Tenn.	7	October 16	September 29, 1903
Okanagan Landing, B. C.‡	6	September 11	August 25, 1907
Chilliwack, B. C.‡	2	August 28	August 28, 1889
Lincoln, Neb.*			December 24, 1908
Giddings, Tex.¶			November 3, 1889
Austin, Tex.	3	October 9	October 8, 1893

Notes on the Plumage of North American Birds

FIFTIETH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

In its distribution and geographic variations the Horned Lark is among the most interesting of North American birds. The facts that it is the only American member of a family of some 200 species, and that, in spite of its plasticity, none of the American races have become specifically distinct from each other or, as a group, from the Old-World species, leads us to believe that the Horned Lark has reached this country in, geologically speaking, comparatively recent times.

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Nevertheless, it has become widely distributed, and where local conditions are suited to its peculiar needs as a terrestrial bird, it thrives in widely varying climatic surroundings from the cold, moist Arctic tundras to the burning deserts of Mexico.

It is common even on the Andean plateau of Bogotá, Colombia, though between this distant locality and southern Mexico no form of the species is known. And here we have an ornithological index of climatic changes, the significance of which strongly tempts speculation. With birds which vary geographically as much as do the Horned Larks, the problem of field identification becomes difficult and its solution is apt to be far from satisfactory. Fortunately, however, many of these forms are restricted to certain areas, and while in the winter the more northern races invade the ranges of those to the south, the student may, at least in the nesting season, name the bird seen by the locality in which it is found. I make no attempt, therefore, to describe racial differences but refer the student to the map accompanying Dr. Oberholser's paper. As the race which will doubtless come to the attention of the largest number of BIRD-LORE's readers, I describe the plumage changes of the Prairie Horned Lark.

Prairie Horned (Shore) Lark (*Otocoris alpestris praticola;* Figs. 4, 5.) In nestling plumage a Horned Lark looks more like the chick of some gallinaceous bird than the young of a passerine species. Or, expressed technically, it suggests a precocial rather than an altricial bird. This juvenal plumage is brownish above, the feathers being tipped with buffy spots, the breast is paler, with an admixture of black, the throat and abdomen whitish, the former being sometimes slightly tinted with pale yellow.

The postjuvenal (first fall) molt is complete. The first winter plumage resembles Fig. 5. Male and female are much alike, but the former has more black on the forehead and usually fewer streaks on the breast. There is no spring, or prenuptial molt, and the summer dress is acquired by wear which more clearly reveals and more sharply defines the black areas of the breast and head.

With the fall molt feathers are acquired with fringes which partly conceal these areas. There is now little or no difference between young and adult birds, but the latter, as a rule, have fewer streaks on the breast.

As the frontispiece shows, the Prairie Horned Lark (Figs. 4, 5) is a slightly smaller bird than the Horned Lark (Fig. 5), from which it further differs in having the forehead postocular region and line over the eye white instead of yellow, and there is less yellow on the throat.

The character of the variations of the other races of this species are indicated by the remaining figures in our plate, from the bleached race of the desert to the deeply colored ones of more humid regions.

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Notes from Field and Study

Memories of the Passenger Pigeon

The last flock of Passenger Pigeons that I remember seeing was about 1886–7. It was in the late autumn, after the leaves had fallen from the trees. There were about 120 birds in the flock. They lighted in the top of a large beech tree; and, finding that the beechnuts had fallen out of the hulls, dropped in rapid succession from branch to branch till all had reached the ground. I never have seen more intense activity or seeming system in feeding than those birds displayed. They worked in a wing-shaped group, moving nervously forward in one direction around the tree, gleaning the entire nut-covered space as they went. Those falling to the rear of the flock, where the nuts were picked up, kept flopping across to the front so as to get the advantage of the unpicked ground. A few that wandered apart in search of scattered nuts kept scurrying about and tilting as they picked them up and then hurried back to the flock as if they feared that the flock would soon be through feeding and off on the wing. This restless, voracious activity was continued till the flock took fright and burst into the air, to fly away and disappear as a small cloud. Will they ever appear again?—HIBBARD J. JEWETT, *Xenia, Ohio.*

Notes from Canandaigua, N. Y.

There appeared in the Brigham Hall grounds, May 18, 1917, a bird seldom seen north of New Jersey—the Blue-gray Gnatcatcher,—a male in fine plumage.

This Gnatcatcher is a tiny bird, not much over 4 inches in length, having an exceedingly long tail, which has white outer feathers. Like its Kinglet relatives, it had the same habit of flitting nervously from twig to twig.

We noted his flycatching habit of taking insects on the wing with wonderful dexterity, and saw that, at all times, he kept his tail sticking up in the air. The Blue-gray Gnatcatcher, seemingly, is a bird of the tree-tops, for he remained in them most of the time he was under our observation. At times, he was not unwilling to show off his delicate, trim body, which was whitish underneath and blue-gray above, by coming down among the lower branches and to the shrubbery. It was then we could plainly distinguish the narrow black band over the forehead and eyes.

The Gnatcatcher sang its rather feeble but exquisitely finished song, many times. The call-note was heard, too. It is '*tsee, tsee, tsee*', and sounded a bit like the squeak of a mouse.

Its dainty coloring, sweet, whispered song, graceful posture, and constant motion would be sure to attract attention at any time.

Former Canandaigua records of this uncommon summer visitant, given in Eaton's 'Birds of New York,' are of two birds secured June 3, 1886, and one seen April 25, 1906.

This year's record would seem to prove beyond a doubt that the Blue-gray Gnatcatcher was seen by the same observer, Dr. H. C. Burgess, at Brigham Hall last season. Because amateurs see rare birds not seen by experienced observers, they say: "Oh, no! You could not possibly have seen that." Dr. Burgess detected the presence of the bird again this spring and spread the good news by the telephone, so that many bird-lovers, including the 'experienced' observers, were given opportunity to be convinced that the Blue-gray Gnatcatcher was really in our midst. It remained three days.

A pair of Red-bellied Woodpeckers made their first appearance in Canandaigua the latter part of December, 1916, and spent the winter. They visited two feeding-stations in the city. The male

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was found dead on our Main Street, having perished in a sleet storm March 16, 1917. The female was about until late in May.

On February 16, 1917, the European Starling made its first appearance in our city in below-zero weather. It was found in an exhausted condition on the porch of the home of A. P. Wilbur, Gibson Street. It was feeding on woodbine berries. Bread-crumbs were thrown on the porch floor. It partook of these freely. It remained all day. The following morning, with mercury at six below zero, it breakfasted at the same place. After satiating its appetite it flew away and was seen no more.

Carolina Wrens (May 23), Saw Whet Owls, a young Golden Eagle, and an American Three-toed Woodpecker (May 20 to 23) were rare birds observed by Ernest H. Watts and Addison P. Wilbur about the grounds at Sonnenberg, Mrs. F. F. Thompson's estate at the edge of the city, during the spring migration.—GEORGIA B. GARDNER, *Canandaigua, N. Y.*

Mockingbird in Iowa

One day, about the middle of May, my husband and I were visiting Cottonwood Cemetery. It was a sunny afternoon, and a number of us had gathered there to clean up the grounds for Decoration Day. As I was wandering about the grounds I was attracted by a bird singing on the top of a tall pine tree close by. I supposed the bird to be a Thrasher and sat down to listen to his song, but soon discovered that it was no Thrasher this time. Becoming more interested, I ventured nearer, and after a long wait I found that my bird was a Mockingbird, trilling, warbling, whistling and calling like a Jay, a Crow, and mocking many other birds. Being a bird-lover, I stood spellbound as I listened to the wonderful medley of song, and after seeing the bird and his manner of flight, color, etc., I was convinced that it was a southern Mockingbird, and no doubt had a nest in the pine and a mate sitting, but I could not discover the nest. On Decoration Day morning we visited Cottonwood Cemetery, and what was my surprise and delight to again see and hear my beautiful bird. Although he seemed much excited and nervous, he stayed by and bravely sang. He sometimes gave an alarm-call but soon seemed to gather courage and try to assure himself and mate that all was well in spite of the commotion going on, the beating of the drum, the shrill music of the fife, the marching of men, women, and children, and the parting salute of the rifles. I have heard since that the young birds have hatched and are now out of the nest. I hope to be able to go to see the family again before they leave us. I claim the honor of being the discoverer of these Mockingbirds, the first I have ever heard or seen.—MRS. JOHN FREEMAN, *Lake City, Iowa.*

Feeding the Blue Jays

Since the days of John J. Audubon the Blue Jay has been considered a thief, robber, and undesirable citizen, but its beautiful plumage and modest habits make it really attractive.

Last winter a pair of Blue Jays afforded a great deal of amusement and taught me many things of interest. Having observed two Blue Jays flitting about in the trees, and listening to their shrill screams, which was a real pleasure to me, and thinking they might appreciate a change in their place of boarding, on October 14 I put a small shelf on the sill of my window and placed on it a few peanuts. On October 18 the Blue Jays visited the food-shelf for the first time and ate or carried away all the peanuts. They continued to frequent the shelf as long as any feed was placed on it. The birds were just social visitors, frequenting the food-shelf at irregular intervals and becoming rather tame. Snow began to fall on the evening of November 12. The next day there were about two inches of snow on the ground, and it was very cold. Early in the morning I placed about a dozen peanuts on the food-shelf and noticed that the Blue Jays, first one, then the other, then both, came

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to the food-shelf. In a short time the peanuts were all gone and I put out more. I continued to feed them until they had eaten, as I supposed, a pint or more of peanuts. I noticed that each bird flew away with one or two peanuts in its bill and soon returned. Thinking that there must be something wrong with the birds' appetites, I went out to observe where they went when they flew away and what they did with the peanuts. I found that the birds were working diligently, carrying the peanuts away and hiding them. They hid them under the snow, on the ground under a few leaves, under some weeds close to the side of a house, under loose shingles on a house-roof, and under leaves in an eave-trough. I scraped away the snow where I saw one of the birds hide a peanut and found several which had been hidden. When there was no food on the shelf the birds would search out the peanuts which they hid several days before. One day I tied several peanuts on a string and left them on the food-shelf. The first Blue Jay to arrive took the string of nuts and flew away to a nearby house-roof and ate them. No other birds found the food-shelf until December 20, when a Red-bellied Woodpecker began coming for feed, but it was always shy. Nuthatches found the shelf late in January.—A. J. DADISMAN, *Morgantown, W. Va.*

BLUE JAY AT THE FOOD-SHELF

Nighthawk in New York City, March 28

A Nighthawk was observed by the writer, flying about over the Pennsylvania Railroad Station in New York City late on the afternoon of March 28, 1918. The call-note was also heard several times. This is a month earlier than the earliest date recorded for the species near Orient, L. I.

Mr. Forbush, in the extremely interesting 'Bulletin of Information,' No. IV, reports one in Demarest, N. J., on March 20, 1918.—ROY LATHAM, *Orient, L. I.*

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Are Starlings as Hardy as English Sparrows?

There was a flock of Starlings about Kingsbury Street during the season of 1916. They had probably been there some time, and early in December were trying to drive the English Sparrows from the belfries of the churches and the schoolhouse. There is also another flock that nests or roosts about Pattens Mills, perhaps in the belfry of the church, three or four miles west of Kingsbury Street.

During the winter of 1916–17—not a severe winter here—Starlings would occasionally come about the house and orchard trees, and a flock of twenty-five birds came the latter part of January for frozen apples. They were rather shy and easily frightened away. Dec. 28, 1917, there was a flock of thirty Starlings about, and, two days later, two birds came. Nothing more was seen of them until March 13, 1918, when two birds came and remained about the orchard trees for half an hour.

The extremely cold wave of the winter of 1917–18 was from December 29 to January 5, when the mercury went as low as 40 degrees below zero in this vicinity, and only a few hours during that interval of time registered above zero. At the village of Fort Ann, Miss Hattie T. Burnham said several Starlings were found perishing from the extreme temperature, and although brought into the house near a fire, the birds very soon died. I am under the impression that many of the Starlings in this region succumbed because of the severe cold weather of the past winter. This section is about 43.5° north latitude, and I doubt very much if the Starling can hold its own, thrive, and do well at a much higher latitude, as the English Sparrow most certainly does.

The Starling is a more attractive bird than the English Sparrow. Near Hudson Falls, I have been told that the Starling drives away and usurps the nesting-places made by the Woodpeckers. At Shushan, the southern part of Washington County, Mr. Frank Dobbin writes me that the Starlings, during January, 1918, were seen feeding on the 'bobs' of the staghorn sumac, and that a Starling had been seen to pursue and kill an English Sparrow.

The winter of 1917–18 has been made notable here by the presence of a Northern Shrike or two, which occasionally would come about the house and drive the Tree Sparrows up from their 'hayseed' table in the garden.—Stewart H. Burnham, *Hudson Falls, N. Y.*

Two Corrections

The August issue of Bird-Lore contains two errors for which the Editor is responsible: (1) the author of the article entitled 'Spotted Sandpiper Colonies' is Julian K. Potter, not J. W. Lippincott as given. (2) H. E. Tuttle's Studies of the Nesting Habits of the Nashville Warbler were made at Simsbury, Conn., not Lake Forest, Ill., as stated.—Editor.

House Sparrows Robbing Robins

In the July-August number of Bird-Lore is a note by C. Bonning, of Detroit, Mich., telling of seeing a House Sparrow steal an angleworm from a Robin—a common sight this summer on the lawns of this city. Not infrequently several Sparrows, instead of one, gather about a feeding Robin and accompany it as it runs from place to place. While digging operations are in progress, the 'bandits' sit expectantly around, not far from the Robin's head, watching for results and ready to swoop in the moment the worm appears. Sometimes the Robins are so annoyed by the pestiferous band that they give up the quest and go hungry for the time. It is strange that a bird as big as a Robin has no more 'spunk.' Once in awhile they will resist and a rough-and-tumble fight will take place, but the Sparrow is more than likely to come off victor, with the booty in its bill.

I have also seen the Robin systematically robbed by the Red-winged Blackbird in exactly the same way when it was digging the big white grubs of the cockchafer from an infested lawn. In this case

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the Blackbirds waited close by until the holes were finished, when they 'rushed' the Robins, which always retreated, and pulled out the grubs themselves. I fear that the Robin, despite our love for him, is but an arrant 'pacifist' at heart.—THOS. S. ROBERTS, *Minneapolis, Minn.*

An Oregon Oriole

The place is a veritable paradise for birds. An old brown house, half hidden by giant rose bushes climbing to the roof; wide lawns with open stretches, where sunshine and shadow play hide-and-seek; sleepy firs, towering maples, locusts, and poplars for shade; hedges of roses and sweet peas to shut out the dust of the street; basins of clean, cool water under a dripping tap, where the birds come often to drink and bathe.

There I first heard of *the* Oriole, not *an* Oriole, but *the* Oriole. Six summers before, a boy threw a stone at him and broke his wing. The brown-house people found him in time to save him from prowling cats, bound up his broken wing, and now receive yearly reward, for he returns each season and builds nearby. They know him by his wavering flight and the cluster of white feathers that never lays smoothly on the broken wing.

I was calling at the brown house one May afternoon, when a flash of yellow past the window caught my eye, and an instant later a bird's voice rang out a song of greeting. The lady of the house ran to the window, saying, "That must be our Oriole." I asked why she said "our Oriole," and got his story.

This is about as she told it to me:

"For several weeks following his injury we fed the Oriole from a window-ledge, and until the going-away time in the fall he seldom failed to appear at a regular hour for his breakfast.

"The next spring my husband built a cooler-cupboard over the north kitchen window, and for a temporary protection tacked a mosquito netting loosely over the exposed side.

"It was early strawberry season, and I had a dish of choice ones set there beside a bowl of cream, ready for lunch. Going to the cupboard on some errand, I saw my luscious berries all nibbled raw, and the cream spotted with pink. 'A mouse,' I cried. We searched cupboards, pantry, and closets but found no four-footed thief. The strawberry and cream episode remained a mystery.

"I think it was the next morning as we were eating breakfast, a slight tapping on the window glass made us glance that way. There on the ledge sat an Oriole, his cocked head and twinkling eyes seeming to say, 'Don't you know me? Don't you know me?'

"Our first thoughts and words were, 'Can it be our Oriole?' We cautiously opened the window, and he promptly flew away, though only to the nearest tree. That settled our doubts, for he flew in the old zigzag manner.

"We were pleased as two children and immediately laid out a tempting tidbit for our traveler. Meanwhile he watched from the tiptop branches, pouring out his joy in the clearest, purest notes you ever heard. A flash and twitter, and, lo, two Orioles were where one had been before. He had brought his mate, but we couldn't be sure whether she was the old wife or a new.

"One morning, a little later, my neighbor's little daughter was playing about the kitchen while I did my morning work. Suddenly she gave out a funny little squeal, and cried, 'Oh, look Auntie, look! look!' A chubby finger pointed to the cooler-cupboard. There, in the very center of a fresh currant pie, stood Mr. Oriole, filling his 'tummie' and likewise that of his more timid mate, who fluttered and coaxed and chirped just outside the danger-line. The mystery was solved; but what was to be done with the beautiful, daring robber?

"Well, we put up a wire netting, for such impudence was past our endurance. For days he fought that netting like a thing alive, beating it with beak and claw. In some way we discovered that if a berry were placed close against the screen, the

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bird managed to get the greater part through the mesh of the wires.

"Since then he and his mate have come every season to be fed from the cooler-cupboard, and every year they have raised a family in their hanging-nest somewhere here in the yard."—ELLA GETCHELL, *Willmar, Minn.*

Memories of a Rainy Day

Today as I sit thinking of many things and listening to the patter of the raindrops without, the character of the day calls to my mind another rainy day in the spring when I spent two of the most delightful hours of my life looking in upon a center of bird activity.

It was about 3 o'clock in the afternoon when Sam and I set out to a pond nearly 2 miles east of town which is known as the 'Lily Pond' because of the large water-lilies found there in summer. We 'plopped' along in the mud and water through a slow, drizzling rain. A great many heavy rains had fallen that spring, and every little depression in the ground was standing full of water.

After nearly an hour of wading through the mud we arrived at the pond, which, on account of the heavy rains, was higher than usual. It is a shallow, marshy pond 200 yards long and 50 yards wide. The water extends 20 to 30 feet back among the masses of sedges and rushes. It is an ideal place for marsh birds. About 6 feet from the north bank, projecting out of the water, is a ridge 3 to 4 feet wide and over 50 feet long. Upon this ridge, and about 30 feet from a small branching willow tree, is a large pile of brush.

We crawled along through the sumac bushes and high grass on the north until we got close to the pond. Hiding behind a clump of little scrubby trees near the edge, we saw a large number of Coots and five Spoonbill, or Shoveller Ducks,—three drakes and two hens.

A great amount of bird-life was on the pond. Looking east I could see the Ducks and down in the west end I discovered an old Mallard hen. I counted the Mud-hens or Coots. There were between twenty-five and thirty. As I looked across the pond a large Bittern came over from the river and alighted among the sedges. From time to time I could see him stepping about, searching for his evening meal, and once or twice I heard his hoarse squawk. Hearing a noise at my left I turned and saw a reddish brown bird with a long bill and moderately long legs sitting upon the brush-pile. His head was drawn down against his shoulders, and he appeared to have a very short neck. He sat there calmly gazing out across the pond and often uttering a single, short, nasal call-note, similar in quality to that of the Nighthawk, but of shorter duration. He was a puzzler to me. I had never seen one like him nor heard the call before.

About this time it was getting darker. The rain had slackened. Bird-notes sprang up from everywhere. From all parts of the marsh came the rapid rattlings and cluckings which I knew to be the call-notes of the Rails then feeding. Twitterings and peepings of Sandpipers and Phalaropes could be heard along the ridge. Across the pond from me a flock of lesser Yellow-legs walked about searching for food. Their long, stilt-like legs seemed almost too weak and unsteady to hold up their weight. I heard a splashing from the east. A flock of birds, twelve in number, came out from the weeds along the north bank, and sitting low in the water, their backs hardly showing, glided out toward the middle of the pond. They swam in the shape of a large V, a large one leading. Again a splash and they could not be seen. In a few seconds they appeared again, widely scattered over the surface of the pond. They continued the leaping, splashing, and diving as if they heartily enjoyed it and were having a good frolic. I recognized them as Pied-billed Grebes.

The Coots scattered and some came so close that I could have touched them. The Spoonbills came back down the pond and passed me not 15 feet away. Another splash, as a muskrat, cleaving the water, swam up the pond, carrying a piece of a sedge for his house. I could see the Caro-

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lina and Virginia Rails now. They were daintily picking their way along the edges of the rushes, gathering seeds and insects (for Rails do nearly all of their feeding toward dusk). The brown bird on the brushpile stopped his calling, stretched out his neck, and, with the most fastidious placing of his feet, stepped off the old dead limbs. Behold, a King Rail! I recognized it instantly, although it was the first that I had ever seen. I then got a better view with my naked eye than I ever expect to have again, for he walked down to the edge of the ridge, swam across to the main bank, and came down along the edge, not 6 feet away! What a beauty! He walked along without concern, hardly giving me a glance, closing the toes of each foot as it was raised and slowly opening them again as they were carefully placed upon the ground. He looked like a creature from another world. Could any bird be as smooth, as neat, as clean, or as beautiful?

It grew darker and the rain increased. The bird-songs gradually ceased. One by one the birds disappeared. The Grebes returned to the sedges, the Ducks to the other end of the pond, and the Rails and Sandpipers sank back into the rushes. The Bittern could be seen no more. The Coots drew into the weeds for the night and all was still. The surface of the pond was calm and unbroken, save by the steadily increasing fall of the rain.—HOWARD K. GLOYD, *Ottawa, Kans.*

Wild-Fowl of the Susquehanna Flats

On December 5, I revisited, after an absence of five years, that great paradise of the wild-fowl, the Susquehanna Flats. Situated at the head of the Chesapeake, where the Susquehanna broadens out into the bay, the Flats are a somewhat obscurely defined tract of waters about 200 square miles in area, 3 to 6 feet in depth when the tide is in; and the whole region is practically one vast bed of wild celery. The Susquehanna Flats have been famous as ducking grounds ever since Colonial days, not only because of the great abundance of wild-fowl which the natural food of the waters attracts, but because of the prime quality of the celery-fed game.

I have looked in vain through my unbroken set of BIRD-LORES for a note or record about the region by some ornithologist who is closely familiar with the wild life of the Susquehanna Flats. Surely there are few regions in the United States which offer greater scope for observation and study of water-birds of all kinds.

To me an expedition to the Flats, 50 miles from my home, is an event preceded by days of happy anticipation and followed by permanent memories. I go as a sportsman, but most of the thrills of my day in the boat come to me from the birds that are not shot. To get the real spirit of the Flats it is necessary to be on them before the hills of the eastern shore are sharply defined against the brightening sky. Then, in the vanishing gloom, a consciousness of the presence of the wild life about almost imperceptibly passes into glimpses of shadowy movements, until a swish of wings helps the eye to a vague flock in the gray. Gradually the picturesque scene unfolds. There are Canvasbacks, and again and again Canvasbacks, thousands upon thousands of them, in curving, reforming lines; there are quick-beating Blackheads (Scaups), Black Ducks, Bull-heads (Golden-eyes), South Southerlies (Old Squaws), and several other species restlessly moving about over the feeding-grounds; there are many rigid formations of Canada Geese; and there are scattered flocks of Swans moving along like great snowy aëroplanes. It is all a joyously impressive sight. The voices, the forms, the spirit of bird-life are gloriously staged at sunrise in December on the Susquehanna Flats.

A strong element of my pleasure on my recent visit was the notable increase of wild-fowl since I had last been to the region. Canvasbacks seem to be four or five times more plentiful. Even the market hunters of Havre de Grace, who at first bitterly opposed spring shooting laws and who looked upon federal regulations as

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encroachment upon their time-honored rights, are enthusiastic about the increase in Ducks, and attribute it solely to the new legislation. In spite of widespread decoy shooting during the season, in spite of the sink-box man who brags of his 200 head per day, and in spite of occasional 'big gunning' of the Ducks at night (an evil practice that still persists), the Ducks are not only holding their own in numbers but they are obviously increasing.

The Federal Government, which has done so much to bring about improved conditions among wild-fowl, is now to subject the ducking ground to a supreme test. For 20 miles along the western shore the land has been taken over and is being made ready for an ordnance proving-ground. It will be interesting to watch the effect of the heavy cannonading on the wild-fowl. Will the birds be driven away or will they be as unmindful of the crash and roar as were the Blackbirds along the battle-torn Yser, about which Major Brooks has told BIRD-LORE'S readers?—H. H. BECK, *Lancaster, Pa.*

THE SEASON

IX. June 15 to August 15, 1918

Mr. John T. Nichols, of the American Museum of Natural History, has consented to assume Mr. Rogers' duties as Editor of this Department and reporter for the New York Region, and Dr. Glover M. Allen replaces Dr. Tyler in the Boston Region. —F. M. C.

BOSTON REGION.—Early summer was notable for the absence of long-continued storms, and so has been favorable for nesting. The occasional severe thunderstorms that followed in late July and August seem to have done no noticeable harm to the birds, despite their fury.

By the third week of July an interesting Robin and Bronzed Grackle roost was discovered at Lexington, to which already nearly 200 Robins nightly resorted as well as somewhat less than half that number of Bronzed Grackles. The spot selected was a dense clump of small red maples and gray birches, bordered by shrubs, and nearly surrounded on three sides by open meadow. The Grackles arrived, mainly in a body, a few minutes before sunset, followed shortly by a few late individuals in groups. These either lit on neighboring tree-tops and, after a brief rest, betook themselves to the densest part of the roost, or sometimes kept on past and returned after a brief survey of the country. Meanwhile, Robins were already arriving singly or in small scattered groups of three or four, coming mainly from the direction of the center of the town or the thinly built-up portion to the east. Few came from the open country to the west. Some pitched at once into the dense growth and soon settled down; others alighted, first in nearby trees and, later, after preliminary challenging notes, betook themselves to rest. The last birds came in early twilight. The whole company took barely three-quarters of an hour to assemble for the night. These were apparently birds from the immediate vicinity, within a radius of perhaps a mile or two. The Grackles had nested in the pines less than a mile away earlier in the spring. Among the Robins, the voices of young birds of the year, now strong on the wing, were occasionally distinguishable. Apparently the Robins that still were busied with young in the near countryside did not join in the flocking to this roost at the time. Absence from town prevented further observation.

Starlings have been seen in small flocks throughout early and late summer in the lowland market-garden country of Belmont, but are seldom seen back on the hills to the north of Boston. They feed much on the ground and seem to find considerable insect food. No reports of damage to small fruits have been received from this vicinity. In late August they are found

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with the Robins and Cedar-birds, eating the wild black cherries.

Bluebirds are in fair numbers and seem to have brought their broods through well. Chipping Sparrows appear more abundant than usual and in August are seen in flocks of old and young, with the Bluebirds, in pastures and fields or along the roadsides.

Apparently more Herring Gulls than usual have been seen on the waters of the Back Bay Basin this summer. In previous years one or two have drifted in to rest on its quiet surface after summer storms, but this season few days have passed when from one to half a dozen might not be seen swinging in or out again to the harbor. Many of them, as was true of numbers seen on the coast at Essex in late August, seemed immature birds.

The fall migration of Warblers has already started at this writing (August 27) in normal fashion. On the coast multitudes of White-bellied Swallows are noticeable. The continuous fair weather should be favorable for their safe passage south. —GLOVER M. ALLEN, *Boston, Mass.*

NEW YORK REGION.—After a cold spell in April, the spring and summer came on gradually and steadily until June. June and July were cool and backward, there being little hot summer weather until about August 1.

Summer resident birds arrived on time and were present in about their usual numbers. Every year more Laughing Gulls summer in this vicinity. July 6 and 7 of this year a flock of about fifty were noted at Mt. Sinai, L. I.

Waves of spring transients, Warblers, etc., were notably absent. Two hypotheses have been advanced in explanation: That these birds are actually decreased in number, or that there were lacking warm waves to stimulate the rapid advance of the migrants and cold waves to hold them up in this latitude.

The most notable bird phenomenon in this vicinity was the abundance and lateness of north-bound shore-birds, several species lingering through June, the last of this spring flight being a single Ring-neck Plover at Long Beach on July 3 (E. P. Bicknell). As the Least Sandpiper had returned there from the North on that same date (about its usual time of arrival), north- and south-bound birds actually met in this latitude. It is assumed that the Ring-neck of July 3 was a straggler from the northward flight, as that species had been present through the month of June. It would be interesting to know whether this individual continued northward until it met members of its own species returning, remained in this vicinity until they arrived, or turned southward at this point with Least Sandpipers and other birds with which Ring-necks associate. The late summer occurrence of young Little Blue Herons on Long Island is greater than that of last year (a flock of eight observed at Mastic, 60 or 70 miles east, August 3), but there have been fewer American Egrets reported from near New York.—JOHN T. NICHOLS, *New York, N. Y.*

PHILADELPHIA REGION.—June and July averaged about normal as to weather conditions. On June 14 a severe thunderstorm occurred, accompanied by hail, yet in spite of this occurrence several nests which I had been watching were unharmed. A mother Killdeer must have endured a severe pelting but apparently with no ill effect to her eggs, which all hatched, or to herself.

Purple Grackles, mostly immature birds, were first noticed flocking in considerable numbers June 8.

On June 16 a small Night Heron colony near the city, containing sixteen nests, was visited. That they had done very well was shown by the fact that twenty-eight young were counted perched about near the nests. Some flew away at my approach. Only one dead youngster was discovered, probably having fallen from the nest.

July produced few interesting features. Bank Swallows first appeared flying over the marshes in conspicuous numbers July 8.

The abundance of Nighthawks flying about the city this summer is worthy of mention. Their harsh cries could be heard in almost any part of the city from twi-

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light on through the night.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—Ornithological happenings about Washington during June and July were scarcely out of the ordinary. A very hot wave during the last week of May sent practically all the northern migrants in search of a more congenial climate, so that by June 1 almost none but summer resident birds remained. A few notes, however, seem worthy of mention.

The Least Bittern appears to be rather unusually numerous this summer, for many were seen at Wellington, Va., and Dyke, Va., by Mr. and Mrs. L. D. Miner on June 24 and July 6. An American Bittern was also heard by them, pumping in a marsh at Wellington on June 24, an occurrence of some interest, since this species has been uncommon here in summer during recent years. The same observers report a Pied-billed Grebe seen at Chevy Chase, Md., on July 2; and an adult male Horned Grebe at Wellington, Va., on June 24, the latter doubtless a crippled bird. They also saw the Prothonotary Warbler at Dyke on June 1, and observed it at Warwick, Va., June 15, which dates, taken together with reports from other observers this summer, seem to indicate that the species is breeding in this vicinity.

On July 19 the writer found several Long-billed Marsh Wrens in an unimproved part of Potomac Park. The ground here is entirely dry, with no ponds or cattails, but is covered with a rank growth of weeds 4 to 7 feet in height, composed chiefly of various species of goldenrod, including the giant species, *Solidago altissima*. Here the Wrens were quite at home and in full song, though it is a place much more suited to the Short-billed Marsh Wren than to the other species. These birds have been here through June and July, and inquiry among local ornithologists developed the fact that many years ago birds of the same species inhabited the same place when it was damper than at present and interspersed with a few little ponds that had a sparse growth of cattails. Thus it appears that the Wrens have clung to the same habitat ever since, notwithstanding the changes that it has undergone, or returned to it on account of the destruction of much cattail marsh by the dredging operations now reclaiming the river-flats in the vicinity of Washington.

The Purple Martins have again begun to roost in Washington, somewhat earlier than last year. They first appeared on July 19, and since that time have been steadily on the increase in numbers.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

MINNEAPOLIS, MINN., REGION.—The portion of the summer covered by this report has been unusually cool and delightful, broken by only an occasional really hot day or two. Rain has fallen in sufficient quantity so that the whole state has been green and beautiful, and, as a result, crops of all essential kinds have developed beyond the ordinary, both in quantity and quality, and are just now, when of all times they are most welcome, being garnered in glorious abundance.

It may be interesting to note a curious freak spell of weather that occurred July 1 up along the northwestern border of our state. Snow fell there on that date to the depth of 4 inches, and photographs published in the papers at that time show men shoveling the snow from the sidewalks and streets of Fargo as in wintertime.

Much of my last report was devoted to a consideration of the exceptional scarcity of birds in this locality the present year. Further observation confirms this impression. Certain usually common summer residents have been almost entirely absent hereabouts. As examples: The writer has not seen or heard this year a single Towhee, the notes of which ordinarily come from almost every suitable woodland; and the frequent haunts of the Oven-bird have been silent and deserted. True, an occasional lonely individual of these species has been reported, but the normal resident population failed to appear. A careful observer reports that the White-throated Sparrow and the Junco were much less

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abundant than usual in their summer homes in our northern forests, and this tallies well with the report that they passed through the southern part of the state this spring in greatly reduced numbers.

As an offset to this general paucity of birds, it is a pleasure to record the unusual abundance of a few species. Never before have I seen such numbers of Grinnell's Water-Thrush. From May 7 to May 23 they were constantly abundant along all wooded streams and bushy lakesides, the height of the migration being about May 14, when often several could be seen at once in some favored haunt, daintily wading and wagging along through the shallows or flitting from stone to stone, for all the world like tiny Sandpipers. This Water-Thrush is a migrant in southern Minnesota, passing northward to the evergreen forests to nest in company with the Canadian Warblers and Sparrows. Southeastern Minnesota is, however, the summer home of a considerable number of Louisiana Water-Thrushes which push northward from the normal Carolinian surroundings of the species, through the wooded bottomlands of the Mississippi River, to establish themselves at posts well within the Alleghanian Fauna of the Transition Zone. Not a few of these pioneering birds leave the Mississippi and turn into the valley of the St. Croix River, between Wisconsin and Minnesota, distributing themselves to nest along this deep gorge as far north as Taylor's Falls, about latitude 45 degrees, 20 minutes north, just on the southern edge of the Canadian Zone at this point. Curiously enough, only a rare straggler now and then continues the direct course up the Mississippi. There are only two or three stray records for the vicinity of Minneapolis, and this year, for the first time, the nest of the Louisiana Water-Thrush was found in this region. This nest was situated in the bank of a brook running through a wooded ravine some 10 miles south of Minneapolis. When discovered by the writer, on June 6, it contained nearly fully fledged young, indicating a surprisingly early date for the arrival of this species in this latitude.

Another bird that was unusually common this spring was the Solitary Sandpiper, in contrast with the scarcity of the ordinarily abundant Spotted Sandpiper. Hundreds of this species were to be seen in mid-May along the wooded waterways. They leave here to nest in the Canadian Zone farther north. There was also, for a few days, a great flight of Wilson's Snipe, coming about April 16. A few of these remain to breed in this vicinity. The Lesser Yellow-legs was also common in migration, and, as usual, a few stragglers have remained through the summer—unmated or barren birds. On August 1 two Least Sandpipers were seen feeding on a mud-flat along the Minnesota River, either very early returning migrants or unmated birds summering far south of their nesting fellows. These summer vagrants among the Waders are of frequent occurrence and caution must be exercised lest exceptional breeding records be thus established. Thus in mid-June of 1915, the writer found a Ruddy Turnstone at Lake Mille Lac, Minn. When shot, on June 22, it proved to be a non-breeding female, summering amid the colony of Common Terns nesting on Spirit Island in that lake. Four Bonaparte's Gulls in immature plumage were also present. Again, on June 22, 1916, two Sanderlings were found on Gull Rock in Lake of the Woods, at home, apparently, among the breeding Herring Gulls and Double-crested Cormorants. One of them was shot and showed no signs of being a nesting bird.

Very few of the returning migrant landbirds have reached the southern part of Minnesota before the middle of August. An occasional Tennessee Warbler may be found during the first days of the month and, a little later, the first Magnolia and Blackburnian Warblers. These birds nest in the northern part of the state; the first species sparingly, the others commonly.—THOMAS S. ROBERTS, *Minneapolis, Minn.*

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Book News and Reviews

The Ornithological Magazines

THE AUK.—The July issue of 'The Auk' opens with an article of historical interest by Mr. S. N. Rhoads, entitled 'Georgia's Rarities Further Discovered in a Second American Portfolio of John Abbot's Bird Plates.' A volume containing 122 hand-colored plates has been found in a private library, and our curiosity is aroused as to the chances of other bits of the work of this early portrayer of birds and insects turning up. Two of the plates are reproduced in half-tone as a frontispiece.

One's attention will be arrested by a careful study, accompanied by tables, of the 'Home Life of the Vesper Sparrow and the Hermit Thrush,' by E. M. and W. A. Perry. It is concise, omitting non-essentials that often burden similar studies, and it is a clear statement of facts that speak for themselves, and should be of interest to many of us. Another readable contribution is, 'Further Notes and Observations on the Birds of Hatley, Stanstead, Quebec, 1916–1917,' by H. Mousley, a list annotated in considerable detail.

'The Distribution of Nuttall's Sparrow in California,' by Mr. C. L. Hubbs, shows this race to be closely confined to humid coast areas which are not swampy, but regularly swept by moisture-laden winds. He points out the abrupt change that takes place at Point Concepcion. Another contribution to the northwest coast ornithology is by J. H. Bowles on 'The Limicolæ of the State of Washington,' a group of birds about which information is always welcome. There is also an annotated list, by Mr. J. K. Jensen, entitled 'Notes on the Nesting Birds of Wahpeton, North Dakota,' a region that has received little attention of late years; and one of rarities in southern New England, by A. A. Saunders, entitled 'Some Recent Connecticut Bird Notes.'

'The Birds of Desecheo Island, Porto Rico,' by Mr. A. Wetmore, includes eleven species. A brief sketch of the island is given. 'Notes on the Anatomy of the Cuban Trogon,' by Prof. H. L. Clark, also describes the pterylography of this species.

The reviews of special important works should not be overlooked by those who seek to keep in touch with the progress of ornithology.—J. D.

THE CONDOR.—The July number of 'The Condor' is divided into three nearly equal parts devoted to general articles, reviews and minutes of the Cooper Club, and a 'Directory of Members.' The first article, containing 'Notes on the Nesting of the Redpoll,' by Lee R. Dice, includes records of three nests observed in 1912 on the north fork of the Kuskokwim River in Alaska. Less than thirty days intervened between the time of the completion of the nest and the date when the young birds left the nest. Because of a trip elsewhere just when the eggs were hatching, the precise period of incubation was not determined. A third part of Mrs. Bailey's 'Return to the Dakota Lake Region' is devoted largely to experiences with White-winged Scoters, Golden-eyes, and Prairie Hens. Joseph Mailliard contributes a description of a new subspecies of Fox Sparrow, the Yolla Bolly Fox Sparrow (*Passerella iliaca brevicauda*), the type of which was collected near South Yolla Bolly Mountain, Trinity County, Calif., Aug. 7, 1913.

The reviews contain critical comments on several recent publications, including Dwight's paper on 'The Germs Junco' and Cory's 'Catalogue of Birds of the Americas.'

The steady growth of the Cooper Ornithological Club is shown by the 'Directory of Members' which contains the names of 600 members, six of whom are honorary members. The club now has nearly one-third more members than the British Ornithologists' Union and two-thirds as many members as the American Ornithologists' Union.—T. S. P.

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Bird-Lore

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Devoted to the Study and Protection of Birds
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES
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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

To many of the Editor's friends it has never been quite clear why an ornithologist should have been called to serve in the Red Cross, though reflection will show that the editorial problems presented by technical publications are not unlike, whether the subject matter relate to birds or to surgical dressings. However, in a new position in the Red Cross to which the Editor has recently been appointed, the relation between his profession and present duties is somewhat clearer.

Knowledge of the country gained during ornithological explorations in South America, in combination with experience acquired during the past year in the Red Cross, has, in the opinion of the War Council, fitted him for the post of Red Cross Commissioner to South America, and in that capacity he leaves this country October 3, for an absence of several months, to visit the Chapters of the American Red Cross which have been formed in the South American republics and to further the interests of the Red Cross generally. During this period his editorial labors for BIRD-LORE will be performed by Mr. John T. Nichols, of the American Museum of Natural History.

While it is not expected that a Commissioner of the Red Cross will have much time at his disposal for the study of bird-life, one's inherent interests and the habits of a lifetime cannot be overcome, even by the absorbing character of Red Cross work, and it is proposed, therefore, to send to BIRD-LORE some account of the bird-life of the countries visited as it appears to the ornithologist en route. Our itinerary leads from Havana to Panama and thence to Lima, Valparaiso, Santiago, Buenos Aires, Montevideo, and Rio de Janeiro, with detours into the interior, and should therefore afford wide opportunity for casual observations of the most characteristic birds of land and sea.

These sketches will be illustrated by Mr. Louis A. Fuertes. We regret to say that Mr. Fuertes will not be a member of our party, but his own wide experience in tropical America has given him a large fund of information concerning the appearance in life of many species of South American birds.

THE soldier members of the ornithological department of the American Museum will recall with regret that the American Ornithologists' Union will hold its annual Congress at the Museum in November of this year of their absence. But visiting members may be assured that Messrs. Allen, Waldron Miller, Dwight, and Nichols will accord them a hearty welcome to the department of birds. Meanwhile let us hope that all members of the A. O. U. absent on war duty may answer the roll-call at the meeting of 1919.

THE Biological Survey has issued explicit regulations regarding the enforcement of the laws protecting migratory birds. Due provision is made for the issuance, to properly accredited persons, of permits to collect specimens for scientific purposes. It should, however, be clearly understood that these permits do not do away with the necessity of a state permit, but are required in addition to the permits issued, as heretofore, under state laws. The regulations are printed on a succeeding page.

UNDER the head, 'Our Native Birds,' the Pittsburgh *Chronicle Telegraph* publishes, each Saturday, articles on birds of general and local interest, replies to questions, helpful suggestions, etc. The establishment by bird-clubs of similar departments in their local press would do much to arouse and extend an interest in bird-study.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

PRESENT AND FUTURE RESPONSIBILITIES

One has only to glance through the pages, or even the tables of contents, of most of our weekly and monthly papers and magazines to realize that the press is striving unremittingly to acquaint the public with changing conditions and responsibilities, in the endeavor to educate as well as to interest its readers. Running through *The Scientific Monthly*, for example, appear such articles as 'Education of the Public and Conservation of Native Fauna;' 'Modern Natural History Museums and Their Relation to Public Education;' 'The Banana, a Food of Exceptional Value;' 'The Conservation of Platinum;' 'Snow and Its Value to Farmers;' 'The Cheapest Source of Increased Food Supplies;' 'Insects and National Health;' 'Zoölogy and the War;' 'The Girasole, or Jerusalem Artichoke, a Neglected Source of Food;' 'A National Park Policy;' 'The Work of Museums in Wartime;' 'The Application of Organized Knowledge to National Welfare;' 'Beekeeping and the War;' 'Plant and Animal Life in the Purification of a Polluted Stream,' etc. These few titles are cited to illustrate the range of subjects which affect human welfare and in which everyone ought to take an interest. It is not necessary to refer to a publication bearing the name 'scientific,' to find articles dealing with topics of this nature, since, in some form or other, they appear increasingly for the benefit of all classes and ages of people. The significance of this condition is that in times like the present, it is a national, yes, and an international necessity that everywhere, even in the remotest districts, enlightenment along broad lines with reference to future responsibilities be furthered in the most practical and beneficial way. "The future of any nation is secure, if it *lives up to its possibilities*. Its national problems will be solved and solved thoroughly and intelligently," says an English writer. Considering that, on the average, without special incentive, nations as well as individuals do not attain to half their possibilities, it becomes clear that in periods of stress like the present, not only nations but also every individual member of them must rise to a higher level of intelligence, training and activity if the problems and responsibilities so constantly multiplying are to be met sanely and successfully. Through education alone, "without any unusual incentive" it is stated that one may improve to the point where he may attain to 60 or perhaps 80 per cent of his possibilities, by the aid of trained experts upon whom would devolve the task of mapping out a system sufficiently flexible and thorough to attain such a result.

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Not only is this forward look alluring in its promise of results, but it also reflects the radical changes which must come about in our somewhat conservative ideas concerning the meaning and aim of education. A keen observer recently wrote: "Few teachers realize the instrumental character of ideas, or that the activity of knowing arises either *to satisfy a need* or *to meet a new situation* and that the failure of education is due largely to the neglect of these considerations. . . . The one reform needed at present is to form a clear idea of what education really is, to understand that it takes place only when our pupils are being trained to think out solutions to real problems, or to devise means to meet real situations.

"Generally, we must ever keep in mind that education is taking place only when the pupil is *thinking;* that thinking arises only when there is some problem to solve, some new situation to meet or some obstacle to remove, and that when these conditions are absent, all instruction becomes and must become, mere unintelligent memorizing which develops neither the intellectual powers nor the ability to meet the after demands of life."

Should this dictum appear to minimize the purely cultural side of education and to savor too strongly of utilitarian ends, recall the instructions that Pasteur gave to his students: "Your business, your especial business, must be to have nothing in common with those narrow minds which despise everything in science which has no immediate application." Somewhere between the extremes of the mind narrowed strictly to practical, visible ends and that of a creative imagination with which one in ten thousand possibly, like a Pasteur, may be endowed, must our ideal system of education for the masses be moored, and let us never overlook the fact that while the narrow mind can never solve the problems of the larger world, the creative vision of a Pasteur encompasses not only large but small problems, even those of humblest needs. It was such a master-mind as his that opened up vistas of research leading to modern surgery, and, at the same time, "taught the vinegar-makers of Orleans how to increase their output, instructed France how to prevent the souring of her wines, and helped the brewers of London" by showing them the importance of pure yeast, all practical problems in his day.

A great deal of discussion is going on just now about what shall be taught and what shall be omitted in a thorough education. This is especially true of science. We are confronted with great needs in scientific training and attainment, but there is altogether too much uncertainty as to how best to accomplish the tasks before us, and, in consequence, our schools fall below the standard of efficiency demanded of them. Without proposing to settle the disagreement as to whether general science, elementary science, or a single science is the best means to the end, or whether nature-study shall be confined to the so-called "natural history" method or be based more thoroughly upon a foundation in touch with science, for the moment let the *need* of training be emphasized. At this instant, in a single one of the allied nations, 50,000 specialists await

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the call of their country or are already in service along lines for which long and thorough training has prepared them. The supply of such workers for public welfare must be augmented. Many teachers are leaving schools and colleges to take up Government service, but instead of fewer teachers, more are constantly needed to carry on the program called for in a complete education. Vocational training has possibilities as yet only beginning to be fulfilled. Whether it be pupils in public schools, or the teachers guiding their education, vocationalists, industrialists or, higher up in the scale of training, specialists of university and research grade, everywhere more workers and better training are demanded. By better training is meant not only a firmer grasp of the facts underlying knowledge but also a breadth of vision which applies that knowledge, not alone to physical and mental development but to spiritual upgrowth as well.

Criticizing present-day methods, especially of training in science, Sir H. H. Johnston addressed to the Association of Public School Science Masters these expressive words: "It is almost universally agreed that the education of the impressionable young cannot be confined to the cultivation of the muscles and the steadying of the nerves, to the care of the teeth and removal of adenoids, to the initiation into the mechanical arts and the decorative arts, nor to the filling of the mind with an encyclopedia of useful information. You have, in addition to caring for mind and body, to impart such education as may here with great, there with only partial success, turn the raw material of your pupils into good men and women, honest servants of the state, enthusiastic patriots and law-abiding citizens, obeying, however, wise and humane laws which they are competent to frame and understand.

"Into this third great branch of education (that of the education of the soul) science, founded on demonstrable truth alone, must enter; superstition must be banned. The scientific basis and authority for temperance and chastity must be explained; children must be shown that wrongdoing against one's self or the community does not pay in the long run; that against one's own body and mind it is rapidly punished; that against the community not only are there unpleasant consequences through the enforcement of laws which we have made for the protection of the community, but, also, that the wrongdoer himself would suffer in security and happiness were there no such laws."

It is, perhaps, due as much to this one great lack in the educational system of our present foe, namely, the neglect of the education of the soul, as to any cause, that mental perspective has become so out of alignment and spiritual sympathy and common humanity so startlingly absent among a people for many of whose methods of training universal respect has hitherto been entertained. There is much to criticize in our own system, so much, indeed, that we will do well to take the matter up intelligently and conscientiously. Have the schools in your vicinity been brought up to as high an average standard as is consonant with the needs of the times? Are you resting satisfied with bodily and mental training, the removal of adenoids and condensed, encyclopedic

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curricula? Are you quite sure that you are converting the raw material of youth into citizenship of vision, a sense of duty, responsibility, creative thought and spiritual understanding? Are you teaching children the *value* instead of the *dread* of laws, the *inevitableness* of the results of transgression instead of *fear* of those results? This is not a sermon nor is it intended to be one. It is a plea for the highest standards of education by means of the application throughout the world of knowledge to human welfare.

Especially urgent at this time seems the need of training with regard to the relation between natural resources and human welfare. On every hand we are asked to conserve without always understanding the reason. A carefully prepared brochure from the Conservation Department of the General Federation of Women's Clubs states that "these resources touch every phase of our national and individual life at some point of contact," and "that they are vitally essential to the prosecution of the war." Enumerating soil, forestry, waterways, water-power, minerals, natural scenery, birds and flowers and wild animal life, as well as related matters such as good roads and the planting of the Lincoln Highway, food production and the conservation of human as well as material resources, an appeal is made for a "practical, comprehensive study of nature as a formal part of the public school course," on the ground that "in children, the study of natural objects of the outdoor world is essential to a well-balanced, rational mental development."

The opportunity to broaden our educational basis is certainly at hand, and not alone boards of education, but you and I, as citizens and as members of societies for the betterment of conditions, should stand ready to help this movement. Audubon Societies are particularly responsible in this matter of conservation and education for present needs and future demands.—A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XLI: Correlated with Geography, Elementary Agriculture, and Conservation

A striking example of the need of some imperative necessity to awaken us to the possibilities within our grasp is the relation of the war to agriculture and conservation of resources. In 1898 a report of existing conditions in the United States showed that "for several years prior to 1897 the price of wheat in the North and West was so low as hardly to cover the cost of harvesting, while in the southern states not enough was raised for local consumption," so that the price was more than double in that section of the country. At the same time, cotton, the staple crop of the South, was so low in price as "to yield no profit," while wheat was so high "that if a fair division of acreage had been made

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between the two, the southern planters would have realized handsome profits instead of suffering financial distress."

At the same time, in the North, in New York and Wisconsin, for example, dairying, and especially cheese-making, were chiefly relied upon by farmers, although the price of cheese was only eight or nine cents a pound, and a few years earlier, even as low as four cents. Most of the same land which was exclusively devoted to feeding stock for dairy purposes lay in the sugar-beet belt and was also suitable for growing wheat and other paying crops.

Today, owing to the requirements of war measures, a farmer *must become informed correctly* as to what to plant and what not to plant, as well as to how to plant, when to plant, and when to change crops. The Government furnishes an almost endless amount of information with regard to these matters, besides having established in every state a thoroughly equipped school of agriculture in which some of the finest instructors anywhere are to be found.

The United States Department of Agriculture, under the Division of Biological Survey, does a work so invaluable that every scholar in every school should at least know of its existence and have some idea of the benefits to be derived from following its suggestions.

Take a geography and look at a map of North America, one upon which no states or territories are marked. What idea have you concerning the nature of the soil, the amount of forested area as contrasted with great plains or cultivated land, the relative amount of rainfall or the extremes in temperature at any point which this map represents?

Perhaps you know the names of large cities, of important seaports or navigable rivers, of mountain ranges and lakes of considerable size, but do you know where wheat can be successfully grown, and, if so, what kind of wheat, or where cattle can be raised to advantage, or the sugar-beet, fruits, cereals of all kinds, and upon what conditions the nation's supply of fish and shell-fish depends?

These are questions of very great interest to every man, woman and child today, and, as time goes on, they will become far more imperative because, as people increase in numbers, here as well as all over the world, a food-supply must be produced which will keep them strong and in constant health. At the same time, this food-supply must be grown with such attention to its proper distribution that the *possibilities* of each particular soil and climate be taken advantage of to the utmost. In this way, all classes of people, wherever they may live, will be able to get food of healthful quality and in sufficient amount to meet their necessities, and, particularly, by this means will the distressing complications of transportation, which now cause hardship to many, be largely avoided.

The time and place for every boy and girl to make a start in this extremely valuable kind of knowledge are in our public schools. With an isothermal map of North America and a handful of colored crayons at hand, a class can quickly

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trace the so-called "life-zones," that is, the land areas where crops can be grown, throughout North America, with especial emphasis upon the arrangement of those zones in the United States. Bulletin No. 10, by Dr. C. Hart Merriam, published in 1898 by the U. S. Department of Agriculture (Division of Biological Survey), contains a map of the United States upon which these life-zones are traced in color, and on which the humid and arid portions of them are also indicated.

We find three great divisions of temperature: cold (*boreal*) in the North, and high up along mountain-ranges even into Mexico; temperate (*austral*) throughout the United States and Mexico, except on the cold mountain heights or in the hot lowlands; and hot (*tropical*) in southern Florida, the edges of Texas, and Southern California, the tip of Lower California, and most of Central America, with a part of Mexico.

Within these regions of heat, cold, and partial heat and cold, only certain kinds of vegetation will grow or particular forms of animals thrive. To the far North there are almost endless stretches of ice and snow, along the southern limit of which, during midsummer, the temperature rises to about 50° Fahr. Below this frigid zone, which may be described as Arctic-Alpine, and where no trees can grow, and only a few rugged, dwarfed plants, beautiful beyond description during the period of bloom, comes a broad *transcontinental* belt of evergreen (coniferous) forests that bears the name of the great bay, the southern shores of which it only partially surrounds, namely the Hudsonian Zone. Here, also, it is too cold to raise any but the hardiest crops. Indeed, in a climate where the highest summer temperature is only a little over 57° Fahr., one would hardly expect to find crops of any amount or value. So, vast as the land-area in these zones may appear on the map, they are as yet of little value to man in producing food-supplies beyond fish or wild game, and these only in limited quantity. The great Canadian Zone, which forms the extreme southern part of the Boreal Region, except along mountain-heights farther south yet, is where we may begin a survey of agriculture. Before making a list of the different kinds of food-supply found in this zone and the more temperate ones, it will be helpful to make a simple study of the kinds of soil in which crops grow. So important is this matter of soils that the U. S. Department of Agriculture has a special staff of workers whose business it is to chart different kinds of soil on large colored maps. You will find it interesting to look at such maps, where the prominent feature is the soil. Here you will find the location of swampy areas, tidal marshes, coastal beaches, meadows, muck-beds, rough stony land, fine sandy or gravelly loam or varieties of these types of soil. On page 842 in Mrs. Anna B. Comstock's 'Handbook of Nature-Study,' you will discover a helpful method of becoming acquainted with the earth beneath you, and if you will, in addition, bring from your own home grounds a few handfuls of earth to compare with samples which your state boards of agriculture will doubtless be glad to loan or give you, in a short time you will be able to tell one soil from another.

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SUGGESTIONS

1. In what region do you live, boreal, austral, or tropical?

2. What is your idea of a life-zone?

3. Where are the coldest parts of the United States? The hottest? The temperate?

4. Will wheat and other cereal crops grow anywhere? What kind of soil do they need?

5. What determines their distribution? How much frost, rainfall, and drought will they survive?

6. Does wheat grow where you live? Do you know how much wheat your state produces annually? How much of other cereal crops?

7. Do you know how many bushels of these various crops are raised to the acre in your state? Does the amount vary from year to year? Is it possible to increase the amount raised on an acre? How?

8. Where are the largest wheat-belts of the world? Where is the largest amount of wheat to the acre raised?

9. Is it possible for the United States to raise all the wheat needed at home as well as what is demanded for export to other nations? Should we try to raise as much as possible or just what is needed? What is a surplus? Do you know how large a surplus of wheat our Government hopes to have this year? Will it want more yet in 1919? Why?

10. What birds injure cereal crops? What birds protect them?

11. Can you name all the countries and states as well as the water highways over which the Golden Plover flies in its annual migration? Where is it not well protected?

12. Why would it pay to protect this as well as all other Plovers and shore-birds generally? Are there Plovers in the eastern hemisphere? Golden Plover? Do they ever meet our Golden Plover? If so, where do you think it might be? Does anyone know why the Golden Plover goes so far north to nest and so far south to winter?

13. What do you know about the insects upon which it feeds? Does it have any other kind of food? Can you tell the difference between different kinds of grasshoppers and locusts? Have you any idea how many kinds there are in the United States alone?

14. Compare the habits of the Bobolink in the North and in the South, also in the spring, summer, fall, and winter. When and where should it be *always* protected?

In 1865, 1869, and 1886, locusts appeared in devastating numbers in Nebraska, at places so many as to darken the sun. Without the aid of such birds as the Yellow-headed Blackbird, Plover, Quail, Curlew and Prairie Chicken, cereal crops would have been lost. A farmer in Fremont, Neb., wrote, "In answer to your question about the birds and the locusts, I must say this: 'Every farmer that shoots birds must be a fool.' I had wheat this spring on new breaking. The grasshoppers came out apparently as thick as the wheat itself, and indeed much thicker. I gave up that field for lost. Just then great numbers of Plovers came, and flocks of Blackbirds and some Quail, and commenced feeding on this field. They cleaned out the locusts so well that I had at least three-fourths of a crop, and I know that without the birds, I would not have had any. I know other farmers whose wheat was saved in the same way."

From Fall River, Mass., comes this surprising record of the beneficial work of the Spotted Sandpiper in a garden and orchard about 1,500 feet from the shore: "Three pairs nested in a young orchard behind my house and adjacent to my garden. I did not see them once go to the shore for food, but I did see them many times make faithful search of my garden for cutworms, spotted squash bugs, and green flies. Cutworms and cabbage worms were their especial prey. After the young could fly, they still kept at work in my garden and showed no inclination to go to the shore until about August 15. They and a flock of Quail just over the wall helped me wonderfully."—A. H. W.

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For and From Adult and Young Observers

OUR BIRD EXHIBIT

A bird exhibit was held by the Junior Audubon Society of Grades V and VI, at Fields School, Wollaston, Mass., on May 6. Bird records were played on the victrola, and the children enjoyed them very much.

Stuffed birds were loaned by Henry Jones, and four or five came from the Wollaston School. Among the birds there were the Blue Jay, Flicker, Kingfisher, Loon, Rail, Barred Owl, Cedar Waxwing, and many others.

MASSACHUSETTS FIELDS SCHOOL, GRADES V AND VI

There were some nests brought in by the children, although Miss Thayer brought most of them. There were nests of the Baltimore Oriole, Robin, Hummingbird, Barn Swallow, Chipping Sparrow, and others, too.

On the wall there were pictures from the Audubon Leaflets and drawings colored by the children. Booklets written by the class on "How Birds Will Help to Win the War" were displayed.

Five dollars was received from the exhibit. Half of it was donated to the Junior Red Cross and half to the Massachusetts Audubon Society.—ELIZABETH MORRIS (age 11 years).

[The teacher of these pupils writes: "The boys and girls have enjoyed very much our work on birds this year. Meetings have been held every week since the last of March. The pupils look forward to Tuesday afternoons when one of their members presides. We have found the Audubon leaflets and the outline drawings very helpful." In another column of this Department special reference is made to the value of these outline drawings. Any teacher who grasps the significance of *form* and *proportion* in identifying

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birds has gone a long way in solving the problem of teaching others how to become most certain of bird neighbors in all conditions of adverse light, distance, and unusual phases of plumage.

The exhibition described above has an added interest for our readers because of the judicious and patriotic disposal of the proceeds of the entertainment. There cannot be too much of this coöperation between Junior and State Societies.—A. H. W.]

BIRD EXHIBITS IN PUBLIC LIBRARIES

Marian A. Webb, of Fort Wayne, Ind., writes of a proposed plan to hold bird exhibits in the public libraries of Indiana. The idea is an excellent one.

[For many reasons, public libraries, and particularly the children's departments in them, are most advantageously situated for the display of bird-exhibits as well as for reaching a large number of people in a short time. Now that the public needs graphic instruction in many essential points relative to national welfare and conservation, the libraries throughout the land would do well to discuss some form of concerted action in this connection. Food conservation exhibits are not infrequent in public buildings like museums and libraries, and attract large numbers of interested persons who really wish to learn the essential facts about present methods and needs in establishing regulations which shall insure safety to ourselves and all nations now dependent upon us for food. As time goes on, and the requirements of all the allied nations are being more carefully systematized, it becomes the duty of every thinking and patriotic person to obtain information which is entirely reliable. Many who have neither time nor patience or, perhaps, who cannot read the various conservation bulletins which are going broadcast through the land, will grasp the truth and heed the warning conveyed by a carefully arranged exhibit. Not alone birds but many other natural resources must be studied with a view to wise conservation, and, for many persons, an exhibit which silently presents the actual state of affairs now existing, without comment or antagonizing argument, is more effective than lectures, bulletins, or personal appeals. Undoubtedly, thousands of adults and children came into sympathetic touch with the national situation last year, as well as with future national necessities, through the clear and truthful presentation of the matter in the detailed exhibit shown in the main entrance hall of the American Museum of Natural History in New York City. Any exhibit, however small its scale, can reach the public if it illustrates a fact truthfully. The coöperation of libraries and museums is greatly to be desired at this juncture.—A. H. W.]

ATTRACTING BIRDS TO MY HOME

I would like to tell readers of BIRD-LORE my lovely experience in trying to attract the birds to my home.

Our home, with its yard of trees, shrubbery, vines, and garden, faces a small lake. The first summer we lived there we had very few birds. The next year we put up nesting-boxes and began feeding the birds to make them feel we were their friends. The food we used was only the left-overs from the table, such as cereals, crumbs, and dry bread, which they carried away to their babies as fast as we put it out. This summer we had thirty-six varieties, so you can see what protection and food means to the birds.

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After having that number visiting our feeding-place, we could go to the nests of seventeen different kinds of birds.

I am a little girl ten years old, and a member of the Audubon Society of Findley School, Akron, Ohio.

I have found the colored plates a great help in studying the birds. I wish every little girl could be a member of this Society.—ELIZABETH FOUST, *Akron, Ohio.*

[Perhaps no more appreciative comment could be made upon this attractive, though unembellished statement of home experiences with birds, than to add a letter from a little girl farther west who is taking up bird-photography with the same pure and sane enthusiasm of the real nature-lover. In both instances, home surroundings are made the starting-point for acquaintance with birds, and, in both instances, that apparently narrow horizon is rich in results. It was Gilbert White who as long ago as 1768 wrote of his quiet English garden: "All nature is so full that that district produces the greatest variety which is most examined." It is quite safe to say that patient observation in very limited areas leads eventually to records and discoveries of secrets apparently hidden from those who survey Nature only superficially here, there, or anywhere fancy or chance may lead. The summer bird-population with which the writer is most familiar might almost be compared with that of a strictly home-plot, so intimately associated are the birds with particular and probably preferred nesting and feeding areas therein. Possibly circumstances may never again combine so favorably as to make another opportunity for acquaintance with bird-neighbors as fortunate as this. Surely they can never duplicate this particular spot.—A. H. W.]

A WREN AND ITS HOME

AMATEUR PHOTOGRAPHY

Not until yesterday did I know that such a profitable magazine as BIRD-LORE existed, and now I am anxious to contribute some of my kodak pictures to it.

I am a true lover of nature and am especially fond of birds. My camera, for years, has been my favorite companion, but not until last year did I realize the real value of bird-photography. Now that I know how to get BIRD-LORE, I am more interested than ever. After my experiences, and my failing results

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along this line of work, I have learned that to obtain a good bird picture, requires one to have the patience of Job.

I shall enclose a picture of a little Wren and its house, which took me two hours before I was able to get it, but when finally I saw the result of my effort, I think it was worth all my time and trouble. There is never a bird too small nor too tame to be unworthy of my attention; I love especially the little Wrens.

YOUNG SCREECH OWL

I was never so surprised in my life as when a companion and myself took a stroll through a woods, and without any trouble were able to obtain the picture of an Owl, whfch seemingly sat on a tree-stump posing for us.

I hope that other bird-lovers will direct their interest to bird-photography, as the results, when good, are an everlasting pleasure. —FRIEDA E. NOLTING, *Indianapolis, Ind.*

[The contributor does not give the species of the Owl and Wren photographed, but apparently they are the Screech Owl and Bewick's Wren. However, it is better to know a Wren simply as a Wren, and know it well because of its family characteristics than to think you know the difference between a House and Bewick's Wren, without first being able to distinguish the Wren cut of *bill*, *tail* and *wings*, *form of head*, *motions* and *quality* of *song*. Once acquainted with a Wren as a Wren, the task of deciding its specific name becomes simplified.—A. H. W.]

BIRDS OF THE FAR WEST

I

I have seen a great many birds in this eastern Oregon country—ever so many more than I expected.

We started on Wednesday afternoon, June 20, and went as far as Hood River that evening. The birds seen that far were about the same as in Portland. The next morning we got an early start, and motored, on a side trip, to the 'Devil's Punch-Bowl,' a beautiful waterfall in the shape of a punch-bowl, not far from Hood River. It was here that I had the first of my interesting experiences. Near Hood River I saw a kind of Junco that, so far, I have not been able to identify. A little farther along we saw several beautiful specimens of the Lewis' Woodpecker. At the 'Devil's Punch-Bowl' in which the water is very swift, we saw a Dipper 'swimming' in and out. I was really a little anxious for its safety in that swift falls, but it seemed not to mind it in the least.

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After making the 'Devil's Punch-Bowl' as a side trip, we went on to Maupin. We stopped at The Dalles for lunch, and that was about the beginning of the sagebrush country. Here we began seeing several new birds not found in the Willamette Valley. Crossing the Cascades I had my first, and very enthusiastic acquaintance with the Mountain Bluebird. Though I had always thought it beautiful, I had no idea it was as beautiful as it really is. The picture in Reed's 'Western Bird Guide,' is not at all accurate, and even the descriptions did not paint to me such a pretty picture as it proved to be. There, also, I had my first acquaintance with Say's Phœbe and Cassin's Kingbird. Both were very plentiful, though the bird that was the most numerous, I think, was the Meadowlark. One peculiar thing that came to my notice was the nesting-site of the Cassin's Kingbird. The telegraph poles in this district are braced by smaller posts some five feet high, directly alongside, and I saw two nests of Cassin's Kingbird, placed on the top of the smaller post with absolutely no protection from wind or rain. Along in this district, through Wasco County, I also saw several Mourning Doves.

Wasco County abounds in rolling plateaus covered with low sagebrush and small, fine grass. Shortly before reaching Maupin I saw the first Dusky Horned Lark on the trip and one Rock Wren, the first I had ever seen, and it was very obliging and allowed me to get a good look at it.

We arrived at Maupin shortly after sunset, and as it grew dusk I went down to the river to "see what I could see." About six Nighthawks were sailing over the water, catching the many mosquitoes.

The following day we motored to Heppner from Maupin. Not far from Maupin I saw my first Northern Shrike. The rolling plateaus continued here, and now the more desert types of birds became abundant. Cassin's Kingbird, the Dusky Horned Lark, Vesper Sparrow, Mourning Dove, and Mountain Bluebird were abundant, while several Burrowing Owls, Cowbirds, Bank Swallows, Rough-winged Swallows, and Killdeer were seen. Going through a mountainous region covered with Pine, I saw my first White-headed Woodpecker.

About sunset we came to a place called 'Buttermilk Cañon.' This cañon is about six miles long and very winding. A number of birds were seen here, including Brewer's Blackbirds, (among these I saw a freak with a white tail), Mourning Doves, Robins, and Dusky Horned Larks. I do not think, however, that I ever saw such a magnificent sunset. The effect on the rolling plateaus surrounding us was wonderful, and just as dark nearly closed in around us, coming up a hill, we came into full view of Mt. Hood, half enveloped in darkness, but with a beautiful pink haze covering the summit, and Mt. Adams was a solid mass of glowing color—orange, pink, blue, purple, and gray, all blended together.

The next day, having stopped for the night at Heppner, we went on to Pendleton. It was here that we met many Magpies. We also saw a number

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of Burrowing Owls, Brewer's Blackbirds, Kingbirds (*Tyrannus tyrannus*) Cowbirds, Cassin's Kingbirds, Mourning Doves, Crows, and Ravens. Just out of Pendleton, much to my surprise, I saw several Ring-necked (or Chinese) Pheasants.

On the 25th we went to LaGrande, crossing the Blue Mountains. The birds were about the same here, with the exception of another White-headed Woodpecker.

The following day we went on to Baker. The most common birds were Brewer's Blackbirds, though Redwings, and Barn and Cliff Swallows were abundant.

On the 28th we started back for LaGrande but were marooned by the Rock Creek flood caused by the dam breaking. The entire town of Rock Creek was washed away, and the country for five miles around was flooded, so we decided to return to Baker. The only things I noticed which were disturbed in bird-life were the Barn Swallows. They seemed much disturbed over the flood and flew about, dipping into the water now and then. On the way back to Baker, however, I saw something which made me feel well repaid even for being marooned by the flood, and that was four Bobolinks not far from Baker. They were the first ones I had ever seen, and I understand they are quite rare in Oregon. I saw them very well, and had the good fortune to hear them sing.

Today we came on to LaGrande, and saw the Bobolinks again. Another bird I saw not far from Cove was the California Quail which I had not seen before in eastern Oregon.

So far this year (since Jan. 1, 1917) I have seen 112 varieties of birds, and I'm going to raise that number before I get home.—MARY E. RAKER, *Portland, Ore.*

II

I live in Vancouver, Wash., on the Columbia River.

Since the new interstate bridge is finished between Oregon and Washington, we often go to Portland in our automobile, it is such a lovely drive. As we cross the sloughs of the river we see the Great Blue Herons catching fish. They seem to like it there, and we usually see two or three every time we pass.

Mother and I go out into the woods to watch the birds in summer. They are so interesting.

The Oregon Towhees are plentiful out here, and the Willow Goldfinches are nearly as thick as the English Sparrows. I have two bird-houses on our garage, and there is a family of Bluebirds that build there every year. They have been building there for four years now. They usually raise several broods a season.

The little Martins also build in one of my boxes. They go into my garden and keep it clear of all insects that would harm my plants. Last summer I raised and canned twenty-one quarts of tomatoes and had all we wanted to eat fresh, from a dozen plants of tomatoes, while some of my neighbors had a

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very few on account of some kind of an insect that ate the tomatoes. I think it was my Martins and Bluebirds that kept mine free from insects, because I did not use anything to keep the insects off.

I have just put up a Wren-house. I am hoping some little Wren will make its home there next summer.

We have a vine on our front porch, and a Robin built there last summer and raised four little Robins. We are hoping that they will come back again this year.

The Oregon Chickadees are very numerous here. You can hear them almost any time you go out.

Meadowlarks stayed here all winter, and so did the Bluebirds and Robins. It snowed for about a week here, but we fed them and they just swarmed around the back porch where there was food. As we are only 100 miles from the coast, and on a river, Sea Gulls stay here for the smelt in the river.

I have a kodak and try to take pictures of birds but have never had very much luck.

The Flicker, or more commonly known Yellow-hammer, is a familiar bird in these parts. We also have the Allen Hummingbird, as well as the Kingfisher. There are also lots of Thrushes here and *plenty* of Sparrows.—MARY C. DENNY, (age, 13 years), *Vancouver, Wash.*

[It will be instructive for Eastern readers to look up the species and varieties of the common birds noted in these letters from the Far West, *e. g.*, the Chickadee, Goldfinch, Towhee, and Bluebird, and, also, to study the occurrence and distribution of Hummingbirds in North America, and more particularly, in the United States. Especially noteworthy is the mention of the beneficial food-habits of birds in the garden. The tomato-worm may have been the pest injuring the plants.—A. H. W.]

NESTING RECORDS

Last year I found seventy-one nests. Fifty-four of them were found back in New Jersey before the middle of June, when I came home. There, although it was rather late for nests, I found seventeen nests, exclusive of two large Cliff Swallow colonies.

I have a notebook in which I keep a record of all the nests that I find. I give each nest a number and record each observation of that nest under its own number. In the first entry for each nest I describe the location carefully for future reference. Here is just a sample, showing the records of the first six nests that I found.

1. April 23. Robin in apple tree nearest barn in back orchard. Saw her lay the first piece of string in the crotch.
2. April 24. Phœbe on steel girder under first bridge west of hospital. Two eggs. Last year's nest on another girder.
3. April 25. Robin in bush in front of Cline house. No eggs.
1. April 25. Big bunch of grass, no mud lining.
4. April 26. Purple Grackle in small cedar on edge of our orchard. Three eggs.

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2. April 28. Four eggs.
5. April 28. Robin in the big maple. One egg.
6. April 28. Song Sparrow in Reed's hedge. Three eggs.
1. April 29. Two eggs, but no mud lining.
3. May 1. Cat killed one of the birds and pulled nest down.
2. May 2. Five eggs. Sitting.
6. May 2. Four eggs. Sitting.
4. May 3. Five eggs. Sitting.
1. May 8. Four eggs. Sitting.
5. May 13. Nest empty. Think they were stolen.
2. May 13. Three young just hatched and two eggs.
1. May 16. Three young just hatched and one egg.
4. May 16. Young three or four days old.
6. May 20. Only three young; pin-feathers ready to burst.
2. May 23. Feathers not out yet.
6. May 23. Ready to leave nest.
2. May 24. Feathers all out.
4. May 24. Left nest.
1. May 24. Three young left nest. One unhatched egg in nest.
2. June 3. Four young left nest. One unhatched egg left in nest.

To find the history of any nest, first find its number and then go down the list, reading wherever that number is repeated. In this manner I have all my nesting records in a compact form, where they are readily accessible.

At the end of the year a summary may be made:

3 Robins	1 Song Sparrow
1 Grackle	1 Phœbe

This shows how much more common the Robin nests are than any others.

A Robin takes five days to build a nest.

Phœbes build under the same bridge year after year.

A Song Sparrow builds its nest, incubates, and young leave nest in about a month.

A Phœbe lays an egg every *other* day.

These and more facts can be obtained from the records of these six nests, so it is easy to see what records can be obtained through a study of seventy-one nests.—James W. Clise, Jr. (age 15 years), *Willowmoor Farms, Redmond, Wash.*

[Observations of nesting operations are especially instructive. ***Do not disturb the parent birds.*** It is excellent practice to keep brief records like the above, which can be easily tabulated for reference.—A. H. W.]

BIRDS

Birds are a help, especially to the farmers. They help by eating worms and insects. Then, too, everybody likes to hear their sweet songs. All birds are pretty, even the little English Sparrow which we hate so much.

The birds help us, why not let us help the birds? We can tie a bell around the cat's neck so that when it chases birds the bell will ring and give the

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birds a warning. In the winter the birds have to have food as well as we, so let us throw out the crumbs when we brush the table-cloth. Another way to help birds is to put out horse-hairs, because they like them for their nests. There is another that boys do not very often pay any attention to, that is, not to rob their nests. You shouldn't do it, boys. Do not shoot or throw stones at birds. If you see anybody doing harm to birds, tell them that they ought to be like Mr. Audubon and love and care for them instead of harming them. If you see a bird with a broken wing or leg take it and care for it as though it had always lived with you.—DORCAS DAVIS, (age 10 years), Fourth Grade, *Delavan, Wis.*

[If we could only get the feeling that *birds have always lived with us* we should feel much more interest in them and we should certainly protect them with far greater care. —A. H. W.]

AN OPPORTUNITY FOR HELPFUL EXCHANGE CORRESPONDENCE

I am forwarding to you under separate cover three school papers, and the supplement of the official organ of the Education Department of South Australia. They may interest some of your members, in so far as they indicate the steps we are taking in our schools to educate the 'young idea' up to bird protection.

What are our American cousins doing in this direction? Could any of them send a written message of encouragement, to be printed in the Children's Hour in this state? I'm sure our boys and girls would be most appreciative. Yours sincerely.—ALFRED GEO. EDQUIST, Adelaide High School, Education Department, Adelaide, South Australia.

A STRAY VERSE

"Oh Goldfinch!
Oh, happy Robin!
Who taught you how to smooth your pretty feathers!
Who gave you hay to stuff your breast out with!
'Twas God! 'twas God!
He done it."

[Written by a little girl of eight, whose name was not sent. Without changing the grammar, let us all catch the spirit of these charming, naïve lines.—A. H. W.]

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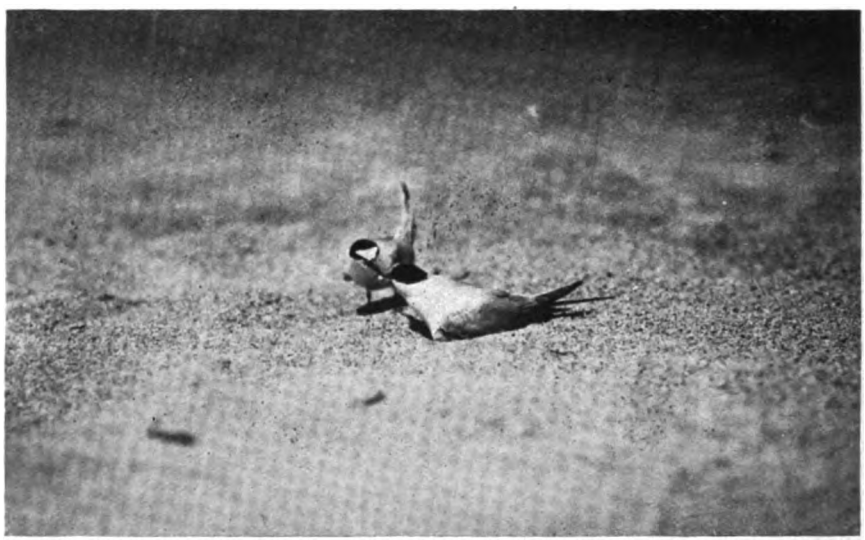
LEAST TERN

By T. GILBERT PEARSON

The National Association of Audubon Societies
EDUCATIONAL LEAFLET NO. 97

One of the daintiest and most confiding of our sea-birds is the Least Tern. Except where they have been extensively shot or otherwise disturbed, they often exhibit a lack of fear that is astonishing.

On the North Carolina coast I have frequently seen them light on the beach within 15 or 20 feet of where I was standing in the open. Their aggression, when one approaches their nests, is equaled only by their near relative, the Arctic Tern.



LEAST TERN FEEDING ITS MATE ON THE NEST
Photographed by E. H. Forbush on an island off the Massachusetts Coast

Forty years ago Least Terns were among the most numerous sea-birds inhabiting the North American continent. Their colonies, situated on islands or points of sandy peninsulas, could be found with great frequency as one traveled along our eastern coast from Maine to Texas. They were also found interiorly in some places, especially up the Mississippi River and, to a limited extent, its tributaries. Here the birds bred on small shoals in the rivers. In those days they ranged as far north as Nebraska, Missouri, and Iowa.

Their beauty of plumage, the ease with which they might be killed, and their vast numbers all contributed to their popularity with the feather-trade, and

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LEAST TERN

Order—LONGIPENNES
Genus—STERNA
Family—LARIDÆ
Species—ANTILLARUM

National Association of Audubon Societies

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during the '80's, before the Audubon work became effective, their slaughter constituted one of the blotches on our American life.

It was the custom in those times for men to fit out vessels with provisions, ammunition, and collecting materials sufficient to last them for days, or even weeks. These piratical crews sailed the coast, killing and skinning the Least Terns and, incidentally, many other birds for the New York millinery houses.

This shooting was carried on almost entirely in spring and summer when the birds were gathered in colonies for the purpose of rearing their young. It was very easy to kill them in numbers, as they flew in screaming clouds low over their eggs and young that dotted the breeding territory. In fact, it was not always necessary to use a gun. So dense were the clouds of birds that the hunters frequently would hurl clubs or short poles among the flying hosts. From two to a half-dozen birds could easily be disabled at a stroke. A half-hour's work at clubbing and shooting by two or three men was often sufficient to secure several hundred birds—all that the crew could skin during the remainder of the day.

By this method the colonies on Long Island were exterminated in a short time. A big killing went on along the coast of Virginia. On Cobbs Island, 10,000 specimens were taken in a single season. A woman representing a New York millinery house directed this work. She took with her two or three skinners and employed the local gunners to kill the birds, paying them ten cents for each one brought in.

So rare had the Least Tern become on Cobbs Island in 1892 when the writer visited the place during the height of the breeding season that less than a half-dozen individuals were seen. The terror of man was so strong upon them that when they caught sight of two of us coming down the beach they flew with startled cries toward the open sea, and we did not see them again during our subsequent excursions along the beach the next three or four days.

Two inhabitants of Morehead City, N. C., Augustine Piner and Joseph Royal, were famous slaughterers of birds in those days, and the numbers of Terns and Egrets that these two men and their crews gathered for the feather business ran into the hundreds of thousands.

By both of these men I have been given intimate, detailed descriptions of their killing and skinning cruises. From them I learned that they frequently found the shooting of Terns profitable at other places than on the breeding-grounds. The Terns often gathered in numbers about inlets to the sea where the constant ebb and flow of the tide evidently furnished excellent opportunities for feeding.

As soon as one bird was shot down on the water, the others in the neighborhood would come flying about overhead, dipping down and shouting at the strange appearance of their helpless comrade. It was then easy to make a large bag of birds in a few minutes. If the flock was wild and difficulty was experienced in getting down the first bird, all they needed to do was to tie a

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handkerchief to a stick and throw it in the air. This decoy, falling to the water, was sufficient to bring the nearest Terns quickly within range of the guns. Because of its small size, the entire skin of the Least Tern was usually worn for hat-decoration. In the case of the larger Terns it was often customary to use only the wings.

For many years the killing of these birds has now been illegal, and the wardens of the National Association of Audubon Societies and, in two cases, the wardens of state game commissions have been guarding the summer colonies of Terns along our coast. In some sections the Least Tern is recovering its numbers to a limited extent. For example, when the first Audubon warden began guarding the colonies on the North Carolina coast, which was in the year of 1903, so scarce had the Least Tern become that only fourteen eggs were laid that year. By careful guarding, the birds increased until three years later, by fairly accurate count made by the warden in charge, 577 Least Terns are believed to have been raised. The numbers steadily increased another year or two, when heavy storm-tides, sweeping the low-lying islands, destroyed the eggs and young alike and for a time prevented further increase.

NEST AND EGGS OF LEAST TERN
Photographed by H. M. Kerth

The Audubon Law in North Carolina put an end to this slaughter, but only when the Least Tern had decreased almost to the point of extermination and the other Terns of the region had become vastly reduced in numbers.

This killing also went on along the coast of South Carolina, Georgia, Florida, and Louisiana. In fact, wherever the Least Tern was found there came men with guns, ammunition, arsenic, and plaster of paris, ready to transform the living bird into a hat-decoration.

On the coast of Massachusetts, chiefly as a result of numerous cats brought by summer residents, the Least Tern appears to be passing away. According to E. H. Forbush, who in 1917 carefully examined the few remaining Massachusetts Tern islands, the principal colonies are now located at Cape Cod and on and in the neighborhood of Martha's Vineyard.

There is a small colony on the sandy point of Raccoon Island, S. C., and a

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few are breeding at Dry Tortugas, Fla. In June, 1918, Carlos Earle reported that there were a number of Least Terns breeding on one or more islands near the mouth of Tampa Bay. On June 30, 1918, I found a group of perhaps fifty pairs feeding their young on a small sandy island in Caxambas Pass, Lee County, Fla. There are some colonies on the islands in Mississippi Sound, and, on June 16, 1918, while cruising with Stanley C. Arthur, I found about one hundred birds that had their nests on some small islands in Calcasieu Lake, Cameron County, La. A few still persist along the outer islands off the coast of Texas, especially in the neighborhood of San Antonio Bay. Some fairly healthy colonies exist on the coast of southern California. Outside of the United States the birds breed in limited numbers in the Bahama Islands, West Indies, British Honduras, and Venezuela.

The nest of the Least Tern, like that of many other sea-birds, is of a most primitive character. It consists chiefly of a slight hole in the sand, without any attempt at lining. Most authorities give the number of eggs deposited as three or four. Of the hundreds of nests that the writer has examined, more contained two than four. Occasionally single nests of drift-weed or grass are found.

When the Least Terns select as a breeding-place an island occupied by other Terns, their colony is always, as far as I have observed, situated in an area quite to itself. In other words, Least Terns seldom, if ever, lay their eggs in close proximity to nests of other birds. The eggs are about an inch and a quarter long and nine-tenths of an inch wide. In color they are brownish white, spotted and dotted with chocolate.

In common with the Black Tern, these exquisite little birds at times feed to some extent on insects, but their food in the main appears to consist of minnows and small shrimps. I have often watched them along our southern coast as, in little companies, they flit along over the creeks and wind for miles through the extensive salt-marshes. They wander into the southern bays and, at times, up the rivers, but along our Atlantic seaboard appear never to breed except on outer sandy islands and spits.

They begin their migration northward in April, and by the middle of May are usually well distributed throughout their summer home. June and July are the months when the duties of rearing young go forward. Apparently these birds do not rear two broods in a season, but if the eggs or young are destroyed by high tides, Fish Crows, crabs, or other causes, a second laying shortly takes place.

As the accompanying illustrations will show, the general appearance of the Least Tern suggests a white bird with a black cap. In reality the wings, back, and tail are of a pearlish gray and the underparts are pure white.

In length from bill-tip to tail-tip it is 9 inches, or an inch shorter than the average Robin. Its wing expanse, from tip to tip, is 20 inches, or 4 inches more than the expanse of the Robin's wings.

The Least Tern belongs to the order of *Longipennes*, the long-winged swimmers, and to the family *Laridae*.

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

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Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

ANNUAL MEETING

Notice is here given of the fourteenth annual meeting of the National Association of Audubon Societies which will be held in the American Museum of Natural History, New York City, on October 29, 1918.

The business session will open at 10 o'clock A.M. After luncheon the Educational Conference will convene at 2 P.M.

It is planned to hold a public meeting in the main lecture hall of the Museum the evening before, viz., October 28, beginning at 8 P.M. At this gathering no business will be discussed. The program will be of an entertaining character.

All members and friends of the Association who can find it convenient to attend any or all of these sessions are urged to be present.

A REDDISH EGRET COLONY IN TEXAS

The Reddish Egret is today undoubtedly one of the rarest Herons in the United States. Occasionally a few are seen in Florida and Louisiana, but these reports are rare. No breeding colony of the birds has, to my knowledge, been discovered of recent years. It was, therefore, a source of much satisfaction to find a large colony of them the past summer.

On June 20, 1918, I visited the "Chain-of-Islands" lying between Mesquite Bay and San Antonio Bay, Tex. This is 20 miles north and east of Rockford. Twelve islands constitute the group, ranging in size from 1 to 2 acres. They are composed of mud and oyster shells. The most noticeable vegetation is stunted mesquite, prickly pear cactus, and Spanish bayonet (yucca). Water-birds were nesting on nine of these islands. Egret and Herons' nests were everywhere in the cactus or mesquite, at heights varying from 8 inches to 7 feet from the ground. I estimated the following numbers of birds breeding on these islands: Louisiana Herons, 3,000 pairs; Reddish Egrets, 1,250 pairs; Black-crowned Night Herons, 600 pairs; Ward's Herons, 200 pairs; and American Egrets, 3 pairs. Probably 100 pairs of Great-tailed Grackles were also breeding there. On a small strip of beach I counted 85 nests of the Black Skimmer containing eggs.

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Other birds noted were: 3 Texas Nighthawks, 6 Royal Terns, 1 Forster's Tern, 10 Black Vultures, and 1 Scissor-tailed Flycatcher. This appeared to be at the height of the breeding season, as many young of all the Herons were found, and numerous nests containing eggs were examined.

The characteristic note of the Reddish Egret is of a melodious trumpet-like character.

NEST AND EGGS OF REDDISH EGRET, EIGHT INCHES FROM THE GROUND IN A CLUSTER OF PRICKLY PEAR CACTUS, CHAIN-OF-ISLANDS, TEXAS
Photographed by T. Gilbert Pearson

REDDISH EGRET NEAR CENTER OF PICTURE, LOUISIANA HERONS IN BACKGROUND CHAIN-OF-ISLANDS, TEXAS
Photographed by T. Gilbert Pearson

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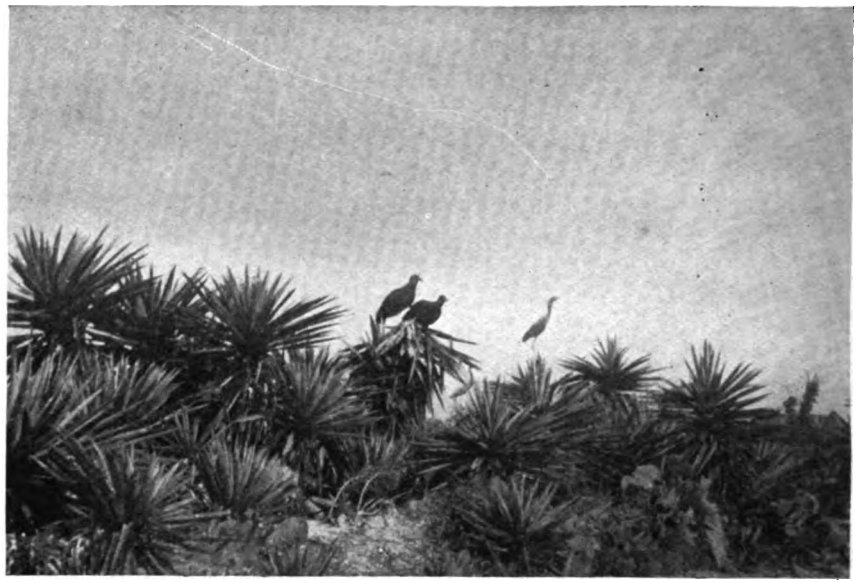

BLACK VULTURES AND REDDISH EGRET, CHAIN-OF-ISLANDS, TEXAS
Photographed by T. Gilbert Pearson

NEST OF GREAT-TAILED GRACKLE AT THE LEFT, NEST OF WARD'S HERON TO THE RIGHT, CHAIN-OF-ISLANDS, TEXAS
Photographed by T. Gilbert Pearson

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MIGRATORY BIRD TREATY ACT

[Approved July 3, 1918. Public, No. 186, 65th Congress—S. 1553]

AN ACT To give effect to the convention between the United States and Great Britain for the protection of migratory birds concluded at Washington, August sixteenth, nineteen hundred and sixteen, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act shall be known by the short title of the "Migratory Bird Treaty Act."

SEC. 2. That unless and except as permitted by regulations made as hereinafter provided, it shall be unlawful to hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time or in any manner, any migratory bird, included in the terms of the convention between the United States and Great Britain for the protection of migratory birds concluded August sixteenth, nineteen hundred and sixteen, or any part, nest, or egg of any such birds.

SEC. 3. That subject to the provisions and in order to carry out the purposes of the convention, the Secretary of Agriculture is authorized and directed, from time to time, having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, to determine when, to what extent, if at all, and by what means it is compatible with the terms of the convention to allow hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any such bird, or any part, nest or egg thereof, and to adopt suitable regulations permitting and governing the same, in accordance with such determinations, which regulations shall become effective when approved by the President.

SEC. 4. That it shall be unlawful to ship, transport, or carry, by any means whatever, from one State, Territory, or District to or through another State, Territory, or District, or to or through a foreign country, any bird, or any part, nest, or egg thereof, captured, killed, taken, shipped, transported, or carried at any time contrary to the laws of the State, Territory, or District in which it was captured, killed, or taken, or from which it was shipped, transported, or carried. It shall be unlawful to import any bird, or any part, nest, or egg thereof, captured killed, taken, shipped, transported, or carried contrary to the laws of any Province of the Dominion of Canada in which the same was captured, killed, or taken, or from which it was shipped, transported, or carried.

SEC. 5. That any employee of the Department of Agriculture authorized by the Secretary of Agriculture to enforce the provisions of this Act shall have power, without warrant, to arrest any person committing a violation of this Act in his presence or view and to take such person immediately for examination or trial before an officer or court of competent jurisdiction; shall have power to execute any warrant or other process issued by an officer or court of competent jurisdiction for the enforcement of the provisions of this Act; and shall have authority, with a search warrant, to search any place. The several judges of the courts established under the laws of the United States, and United States commissioners may, within their respective jurisdictions, upon proper oath or affirmation showing probable cause, issue warrants in all such cases. All birds, or parts, nests, or eggs thereof, captured, killed, taken, shipped, transported, carried, or possessed contrary to the provisions of this Act or of any regulations made pursuant thereto shall, when found, be seized by any such employee, or by any marshal or deputy marshal, and upon conviction of the offender or upon judgment of a court of the United States that the same were captured, killed, taken, shipped, transported, carried, or possessed contrary to the provisions of this Act or of any regulation made pursuant thereto, shall be forfeited to the United States and disposed of as directed by the court having jurisdiction.

SEC. 6. That any person, association, partnership, or corporation who shall violate any of the provisions of said convention or of this Act, or who shall violate or fail to comply with any regulation made pursuant to this Act, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be fined not more than $500 or be imprisoned not more than six months, or both.

SEC. 7. That nothing in this Act shall be construed to prevent the several States and Territories from making or enforcing

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laws or regulations not inconsistent with the provisions of said convention or of this Act, or from making or enforcing laws or regulations which shall give further protection to migratory birds, their nests, and eggs, if such laws or regulations do not extend the open season for such birds beyond the dates approved by the President in accordance with section three of this Act.

SEC. 8. That until the adoption and approval, pursuant to section three of this Act, of regulations dealing with migratory birds and their nests and eggs, such migratory birds and their nests and eggs as are intended and used exclusively for scientific or propagating purposes may be taken, captured, killed, possessed, sold, purchased, shipped, and transported for such scientific or propagating purposes if and to the extent not in conflict with the laws of the State, Territory, or District in which they are taken, captured, killed, possessed, sold, or purchased, or in or from which they are shipped or transported if the packages containing the dead bodies or the nests or eggs of such birds when shipped and transported shall be marked on the outside thereof so as accurately and clearly to show the name and address of the shipper and the contents of the package.

SEC. 9. That the unexpended balances of any sums appropriated by the agricultural appropriation Acts for the fiscal years nineteen hundred and seventeen and nineteen hundred and eighteen, for enforcing the provisions of the Act approved March fourth, nineteen hundred and thirteen, relating to the protection of migratory game and insectivorous birds, are hereby reappropriated and made available until expended for the expenses of carrying into effect the provisions of this Act and regulations made pursuant thereto, including the payment of such rent, and the employment of such persons and means, as the Secretary of Agriculture may deem necessary, in the District of Columbia and elsewhere, coöperation with local authorities in the protection of migratory birds, and necessary investigations connected therewith: *Provided*, That no person who is subject to the draft for service in the Army or Navy shall be exempted or excused from such service by reason of his employment under this Act.

SEC. 10. That if any clause, sentence, paragraph, or part of this Act shall, for any reason, be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the remainder thereof, but shall be confined in its operation to the clause, sentence, paragraph, or part thereof directly involved in the controversy in which such judgment shall have been rendered.

SEC. 11. That all Acts or parts of Acts inconsistent with the provisions of this Act are hereby repealed.

SEC. 12. Nothing in this Act shall be construed to prevent the breeding of migratory game birds on farms and preserves and the sale of birds so bred under proper regulation for the purpose of increasing the food supply.

SEC. 13. That this Act shall become effective immediately upon its passage and approval.

MIGRATORY BIRD TREATY ACT REGULATIONS

[Effective July 31, 1918]

BY THE PRESIDENT OF
THE UNITED STATES OF AMERICA

A PROCLAMATION

WHEREAS, section three of the Act of Congress approved July third, nineteen hundred and eighteen, entitled "An Act To give effect to the convention between the United States and Great Britain for the protection of migratory birds concluded at Washington, August sixteenth, nineteen hundred and sixteen, and for other purposes" (Public, No. 186, 65th Congress), provides as follows:

That subject to the provisions and in order to carry out the purposes of the convention, the Secretary of Agriculture is authorized and directed, from time to time, having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of such birds, to determine when, to what extent, if at all, and by what means, it is compatible with the terms of the convention to allow hunting, taking, capture, killing, [possession, (*sic*)], sale, purchase, shipment, transportation, carriage, or export of any such bird, or any part, nest, or egg thereof, and to adopt suitable regulations permitting and governing the same, in accordance with such determinations, which regulations shall become effective when approved by the President.

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AND, WHEREAS, The Secretary of Agriculture, pursuant to said section and having due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times and lines of migratory flight of migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds concluded August sixteenth, nineteen hundred and sixteen, has determined when, to what extent, and by what means it is compatible with the terms of said convention to allow hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, and export of such birds and parts thereof and their nests and eggs, and in accordance with such determinations has adopted and submitted to me for approval regulations, which the Secretary of Agriculture has determined to be suitable regulations, permitting and governing hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, and export of said birds and parts thereof and their nests and eggs, which said regulations are as follows:

REGULATIONS, MIGRATORY BIRD TREATY ACT

Regulation 1.—Definitions of Migratory Birds

Migratory birds, included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, are as follows:

1. *Migratory game birds:*

(*a*) Anatidae, or waterfowl, including brant, wild ducks, geese, and swans.

(*b*) Gruidae, or cranes, including little brown, sandhill, and whooping cranes.

(*c*) Rallidae, or rails, including coots, gallinules, and sora and other rails.

(*d*) Limicolae, or shorebirds, including avocets, curlews, dowitchers, godwits. knots, oyster catchers, phalaropes, plovers, sandpipers, snipe, stilts, surf birds, turnstones, willet, woodcock, and yellowlegs.

(*e*) Columbidae, or pigeons, including doves and wild pigeons.

2. *Migratory insectivorous birds:* Bobolinks, catbirds, chickadees, cuckoos, flickers, flycatchers, grosbeaks, hummingbirds, kinglets, martins, meadowlarks, nighthawks or bull-bats, nuthatches, orioles, robins, shrikes, swallows, swifts, tanagers, titmice, thrushes, vireos, warblers, waxwings, whip-poor-wills, woodpeckers, and wrens, and all other perching birds which feed entirely or chiefly on insects.

3. *Other migratory nongame birds:* Auks, auklets, bitterns, fulmars, gannets, grebes, guillemots, gulls, herons, jaegers, loons, murres, petrels, puffins, shearwaters, and terns.

Regulation 2.—Definitions of Terms

For the purposes of these regulations the following terms shall be construed respectively, to mean—

Secretary.—The Secretary of Agriculture of the United States.

Person.—The plural or the singular, as the case demands, including individuals, associations, partnerships, and corporations, unless the context otherwise requires.

Take.—The pursuit, hunting, capture, or killing of migratory birds in the manner and by the means specifically permitted.

Open season.—The time during which migratory birds may be taken.

Transport.—Shipping, transporting, carrying, exporting, receiving or delivering for shipment, transportation, carriage, or export.

Regulation 3.—Means by which Migratory Game Birds May be Taken

The migratory game birds specified in Regulation 4 hereof may be taken during the open season with a gun only, not larger than number 10 gauge, fired from the shoulder, except as specifically permitted by Regulations 7, 8, 9, and 10 hereof; they may be taken during the open season from the land and water, from a blind or floating device (other than an airplane, powerboat, sailboat, or any boat under sail), with the aid of a dog, and the use of decoys.

Regulation 4.—Open Seasons on and Possession of Certain Migratory Game Birds.

For the purpose of this regulation, each period of time herein prescribed as an open season shall be construed to include the first and last days thereof.

Waterfowl (except wood duck, eider ducks, and swans), rails, coot, gallinules, black-bellied and golden plovers, greater and lesser yellowlegs, woodcock, Wilson snipe or jacksnipe, and mourning and white-winged doves may be taken each day from half an hour before sunrise to

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sunset during the open seasons prescribed therefor in this regulation, by the means and in the numbers permitted by Regulations 3 and 5 hereof, respectively, and when so taken, each species may be possessed any day during the respective open seasons herein prescribed therefor and for an additional period of 10 days next succeeding said open season.

Waterfowl (except wood duck, eider ducks, and swans), coot, gallinules, and Wilson snipe or jacksnipe.—The open seasons for waterfowl (except wood duck, eider ducks, and swans), coot, gallinules, and Wilson snipe or jacksnipe shall be as follows:

In Maine, New Hampshire, Vermont, Massachusetts, New York (except Long Island), Pennsylvania, Ohio, West Virginia, Kentucky, Indiana, Michigan, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Colorado, Wyoming, Montana, Idaho, Nevada, and that portion of Oregon and Washington lying east of the summit of the Cascade Mountains the open season shall be from September 16 to December 31;

In Rhode Island, Connecticut, Utah, and that portion of Oregon and Washington lying west of the summit of the Cascade Mountains the open season shall be from October 1 to January 15;

In that portion of New York known as Long Island, and in New Jersey, Delaware, Oklahoma, Texas, New Mexico, Arizona, and California the open season shall be from October 16 to January 31;

In Maryland, the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, and Louisiana the open season shall be from November 1 to January 31; and

In Alaska the open season shall be from September 1 to December 15.

Rails (except coot and gallinules.)—The open season for sora and other rails (except coot and gallinules) shall be from September 1 to November 30, except as follows:

In Louisiana the open season shall be from November 1 to January 31.

Black-bellied and golden plovers and greater and lesser yellowlegs.—The open seasons for black-bellied and golden plovers and greater and lesser yellowlegs shall be as follows:

In Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, and Virginia the open season shall be from August 16 to November 30;

In the District of Columbia, North Carolina, South Carolina, Tennessee, Arkansas, Oklahoma, New Mexico, Arizona, California, and Alaska the open season shall be from September 1 to December 15;

In Vermont, Pennsylvania, Ohio, West Virginia, Kentucky, Indiana, Michigan, Wisconsin, Illinois, Missouri, Iowa, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Colorado, Wyoming, Montana, Idaho, Nevada, and that portion of Oregon and Washington lying east of the summit of the Cascade Mountains the open season shall be from September 16 to December 31;

In Utah and in that portion of Oregon and Washington lying west of the summit of the Cascade Mountains the open season shall be from October 1 to January 15; and

In Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas the open season shall be from November 1 to January 31.

Woodcock.—The open seasons for woodcock shall be as follows:

In Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, West Virginia, Kentucky, Indiana, Michigan, Wisconsin, Illinois, Missouri, Iowa, Minnesota, North Dakota, South Dakota, Nebraska, and Kansas, the open season shall be from October 1 to November 30; and

In Delaware, Maryland, the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, and Oklahoma the open season shall be from November 1 to December 31.

Doves.—The open seasons for mourning and white-winged doves shall be as follows:

In Delaware, Maryland, Virginia, Tennessee, Kentucky, Illinois, Missouri, Oklahoma, Texas, New Mexico, Colorado, Arizona, California, Nevada, Idaho, and Oregon the open season shall be from September 1 to December 15; and

In North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana the open season shall be from September 16 to December 31.

Regulation 5.—Bag Limits on Certain Migratory Game Birds

A person may take in any one day during the open seasons prescribed therefor in Regulation 4 not to exceed the following numbers of migratory game birds:

Ducks (except wood duck and eider ducks).—Twenty-five in the aggregate of all kinds.

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Geese.—Eight in the aggregate of all kinds.

Brant.—Eight.

Rails, coot, and gallinules.—Twenty-five in the aggregate of all kinds.

Black-bellied and golden plovers and greater and lesser yellowlegs.—Fifteen in the aggregate of all kinds.

Wilson snipe, or jacksnipe.—Twenty-five.

Woodcock.—Six.

Doves (mourning and white-winged).—Twenty-five in the aggregate of both kinds.

Regulation 6.—Shipment and Transportation of Certain Migratory Game Birds.

Waterfowl (except wood duck, eider ducks, and swans), rails, coot, gallinules, black-bellied and golden plovers, greater and lesser yellowlegs, woodcock, Wilson snipe or jacksnipe, and mourning and white-winged doves and parts thereof legally taken may be transported in or out of the State where taken during the respective open seasons in that State, and may be imported from Canada during the open season in the Province where taken, in any manner, but not more by one person in one calendar week than the number that may be taken under these regulations in two days by one person; any such migratory game birds or parts thereof in transit during the open season may continue in transit such additional time immediately succeeding such open season, not to exceed five days, necessary to deliver the same to their destination; and any package in which migratory game birds or parts thereof are transported shall have the name and address of the shipper and of the consignee and an accurate statement of the numbers and kinds of birds contained therein clearly and conspicuously marked on the outside thereof; but no such birds shall be transported from any State, Territory, or District to or through another State, Territory, or District, or to or through a Province of the Dominion of Canada contrary to the laws of the State, Territory, or District, or Province of the Dominion of Canada in which they were taken or from which they are transported; nor shall any such birds be transported into any State, Territory, or District from another State, Territory, or District, or from any State, Territory, or District into any Province of the Dominion of Canada at a time when such State, Territory, or District, or Province of the Dominion of Canada prohibits the possession or transportation thereof.

Regulation 7.—Taking of Certain Migratory Nongame Birds by Eskimos and Indians in Alaska.

In Alaska, Eskimos and Indians may take for the use of themselves and their immediate families, in any manner and at any time, and possess and transport auks, auklets, guillemots, murres, and puffins and their eggs for food, and their skins for clothing.

Regulation 8.—Permits to Propagate and Sell Migratory Waterfowl

1. A person may take in any manner and at any time migratory waterfowl and their eggs for propagating purposes when authorized by a permit issued by the Secretary. Waterfowl and their eggs so taken may be possessed by the permittee and may be sold and transported by him for propagating purposes to any person holding a permit issued by the Secretary in accordance with the provisions of this regulation.

2. A person authorized by a permit issued by the Secretary may possess, buy, sell, and transport migratory waterfowl and their increase and eggs in any manner and at any time for propagating purposes; and migratory waterfowl, except the birds taken under paragraph 1 of this regulation, so possessed may be killed by him in any manner except by shooting, and the unplucked carcasses and the plucked carcasses with heads attached thereto of the birds so killed may be sold and transported by him in any manner and at any time to any person for actual consumption, or to the keeper of a hotel, restaurant, or boarding house, retail dealer in meat or game, or a club, for sale or service to their patrons, who may possess such carcasses for actual consumption without a permit.

3. Any package in which such waterfowl or parts thereof or their eggs are transported shall have plainly and conspicuously marked on the outside thereof the name and address of the permittee, the number of his permit, the name and address of the consignee, and an accurate statement of the number and kinds of birds or eggs contained therein.

4. Applications for permits must be addressed to the Secretary of Agriculture, Washington, D. C., and must contain the following information: Name and address of applicant; place where the business is to be carried on; number of acres of land used in the business and whether owned or leased by the applicant; number of each species of waterfowl in possession of applicant; names of species and number of birds or eggs of each species if permission

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is asked to take waterfowl or their eggs; and the particular locality where it is desired to take such waterfowl or eggs.

5. A person granted a permit under this regulation shall keep books and records which shall correctly set forth the total number of each species of waterfowl and their eggs possessed on the date of application for the permit and on the first day of January next following; also for the calendar year for which permit was issued the total number of each species reared and killed, number of each species and their eggs sold and transported, manner in which such waterfowl and eggs were transported, name and address of each person from or to whom waterfowl and eggs were purchased or sold, together with number and species and whether sold alive or dead; and the date of each transaction. A written report correctly setting forth this information shall be furnished the Secretary during the month of January next following the issuance of the permit.

6. A permittee shall at all reasonable hours allow any authorized employee of the United States Department of Agriculture to enter and inspect the premises where operations are being carried on under this regulation and to inspect the books and records of such permittee relating thereto.

7. Permits issued under this regulation shall be valid only during the calendar year of issue, shall not be transferable, and may be revoked by the Secretary, if the permittee violates any of the provisions of the Migratory Bird Treaty Act or of the regulations thereunder.

8. A person engaged in the propagation of migratory waterfowl on the date on which these regulations become effective will be allowed until September 30, 1918, to apply for the permit required by this regulation, but he shall not take any migratory waterfowl without a permit.

Regulation 9.—Permits to Collect Migratory Birds for Scientific Purposes

A person may take in any manner and at any time migratory birds and their nests and eggs for scientific purposes when authorized by a permit issued by the Secretary, which permit shall be carried on his person when he is collecting specimens thereunder and shall be exhibited to any person requesting to see the same.

Application for a permit must be addressed to the Secretary of Agriculture, Washington, D. C., and must contain the following information: Name and address of applicant and name of State, Territory, or District in which specimens are proposed to be taken and the purpose for which they are intended. Each application shall be accompanied by certificates from two well-known ornithologists that the applicant is a fit person to be entrusted with a permit.

The permit will authorize the holder thereof to possess, buy, sell, and transport in any manner and at any time migratory birds, parts thereof, and their nests and eggs for scientific purposes. Public museums, zoölogical parks and societies, and public scientific and educational institutions may possess, buy, sell, and transport in any manner and at any time migratory birds and parts thereof, and their nests and eggs for scientific purposes without a permit, but no specimens shall be taken without a permit.

Permits shall be valid only during the calendar year of issue, shall not be transferable, and shall be revocable in the discretion of the Secretary. A person holding a permit shall report to the Secretary on or before January 10 following its expiration the number of skins, nests, or eggs of each species collected, bought, sold, or transported.

Every package in which migratory birds or their nests or eggs are transported shall have clearly and conspicuously marked on the outside thereof the name and address of the sender, the number of the permit in every case when a permit is required, the name and address of the consignee, a statement that it contains specimens of birds, their nests, or eggs for scientific purposes, and, whenever such a package is transported or offered for transportation from the Dominion of Canada into the United States or from the United States into the Dominion of Canada, an accurate statement of the contents.

Regulation 10.—Permits to Kill Migratory Birds Injurious to Property

When information is furnished the Secretary that any species of migratory bird has become, under extraordinary conditions, seriously injurious to agriculture or other interests in any particular community, an investigation will be made to determine the nature and extent of the injury, whether the birds alleged to be doing the damage should be killed, and, if so, during what times and by what means. Upon his determination an appropriate order will be made.

NOW, THEREFORE, I, WOODROW WILSON, PRESIDENT OF THE UNITED STATES OF AMERICA, DO HEREBY APPROVE AND PROCLAIM the foregoing regulations.

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VOL. XX
No 6

NOVEMBER—DECEMBER, 1918

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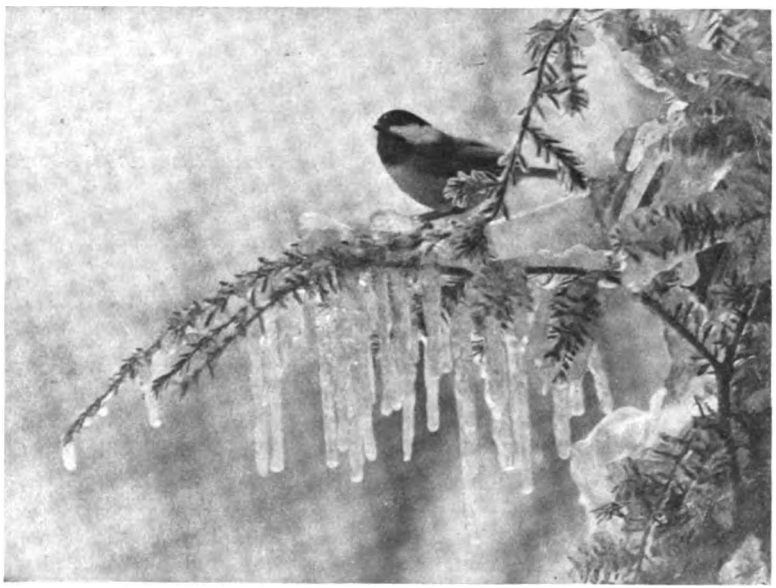

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FRANK M. CHAPMAN

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Bird-Lore

November-December, 1918

CONTENTS

	PAGE
GENERAL ARTICLES	
Frontispiece in Color. American and Yellow-billed Magpies. *Louis Agassiz Fuertes.*	
Notes from a Traveler in the Tropics: I. Down the Coastline to Cuba. Illustrated. *Frank M. Chapman.*	393
When the North Wind Blows. Illustrated. *Arthur A. Allen.*	399
Homeland and the Birds. Illustrated. *Mabel Osgood Wright.*	406
A Wild Duck Trap. Illustrated. *Verdi Burtch.*	410
The Migration of North American Birds. VII. Magpies.	415
Notes on the Plumage of North American Birds. Fifty-first Paper. *Frank M. Chapman.*	416
Bird-Lore's Nineteenth Christmas Bird Census. *John T. Nichols.*	416
NOTES FROM FIELD AND STUDY	418
Red Crossbills in Seattle, *M. I. Compton;* Maine Notes, *Haydn S. Pearson;* Golden-eye Duck Carrying Young, *W. N. Macartney, M.D.;* The Birds I Watch from My Window, *Mrs. F. W. Gorham;* Bird Horizons in the San Francisco Bay Region, *Harold C. Bryant;* A Record of the Bald Eagle from Champaign County, Ill., *Sidney E. Ekblaw;* Our Summer Boarders, *Mrs. A. W. Brintnall;* The Blue Grosbeak in Central Illinois, *Sidney E. Ekblaw;* Our Winter Bird Neighbors, *Katrine Blackinton;* Northern Shrike Visits a Feeding-Shelf, *Mrs. Clark Pierce;* Observations on a Food-Shelf, *George Roberts, Jr.;* Snowy Owl in Iowa, *F. May Tuttle;* American Egret in Pennsylvania, *Conrad K. Roland;* Bird-Banding, *John T. Nichols.*	
THE SEASON. X. August 15 to October 15, 1918	427
Glover M. Allen; John T. Nichols; Julian K. Potter; Harry C. Oberholser; Thos. S. Roberts, M.D.; Lynds Jones; Harry Harris; W. H. Bergtold.	
BOOK NEWS AND REVIEWS	433
Beebe's 'Jungle Peace'; The Ornithological Magazines.	
EDITORIAL	435
THE AUDUBON SOCIETIES—SCHOOL DEPARTMENT	436
Christmastide Reflections, *A. H. W.;* New Standards in a New Era, *A. H. W.;* Junior Audubon Work, *A. H. W.;* For and From Adult and Young Observers.	
THE AUDUBON SOCIETIES—EXECUTIVE DEPARTMENT	450
No Annual Meeting; The Coming Year; Walter Freeman McMahon.	
ANNUAL REPORT OF THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES FOR 1918	453

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Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XX NOVEMBER—DECEMBER, 1918 No. 6

Notes from a Traveler in the Tropics

By FRANK M. CHAPMAN

I. DOWN THE COASTLINE TO CUBA*

IN these days of submarines, the coastline route to Cuba, by way of Key West, has certain obvious advantages over the voyage by sea. The necessity of stopping at the Marines' Training Camp, on Paris Island, off Beaufort, S. C., however, left me no choice in the matter, though I am free to confess that a strong desire to avoid meeting a submarine, added to a keen wish to see the southern states in October,—even if only from a car-window,—would have prompted me to make the journey by land. To paraphrase Dr. Van Dyke's remark to the effect that he did not care to climb a mountain unless there was something very pleasant at the top and something very disagreeable at the bottom, a sea-voyage offered only objectionable possibilities, while the trip by rail promised to be exceptionally interesting and attractive. Most of my many journeys to and from Florida have been made in the winter or early spring, when some of the most characteristic trees are leafless and the crops of the country have been gathered; in short, when the region through which one passes is at its worst. It was a surprise to me, for example, to see sugar-cane and well-developed banana plants near Beaufort—though I assume that the latter do not bear fruit—while the cotton-fields, with their green leaves, pop-corn-like cotton-bolls and occasional corn-colored blossoms, possessed small resemblance to the dreary rows of brown stalks, with an occasional wisp of cotton, which the winter traveler sees.

Fallow fields and waysides were yellow with goldenrod, wild sunflowers, and numerous flowering plants new to me; there was an abundance of green grass instead of brown sedge, and this general air of greenness was the dominant note which everywhere impressed me. Cypress, china-berries, and scuppernong grape-vines, all of which are leafless in winter, were fully foliaged, and the turkey oaks, which flutter their dead leaves depressingly in the winter, were clad in rich yellow-green.

*The first of a proposed series of letters by the Editor of BIRD-LORE, written while on a mission to South America for the American Red Cross.

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There is no reason to be surprised at all this; it is simply the difference between winter and late summer, but many persons who go south in the winter express disappointment in the vegetation. Florida, for instance, as a "Land of Flowers," is expected to be in a perpetual state of inflorescence; but even in the tropics vegetation must have its periods of rest. A tree cannot bear blossoms and fruit continually, any more than a bird can nest throughout the year.

The bird population of the southern states is probably smaller in early October than in any other part of the year. The migration is nearly over, the summer residents have gone, and, like the tourists who later will flock south, the winter residents have not come.

Mourning Doves, which are doubtless more often seen from car-windows than any other North American bird, flew, usually in pairs, as though they were hurrying to keep an appointment somewhere. Sparrow Hawks and Loggerhead Shrikes, both of which hunt in the open, were not uncommon, and there were occasional Turkey Buzzards. A scattered company of about twenty White Herons animated the marsh near Beaufort; doubtless they were immature Little Blues. About a charming old hotel in this quaint city of the real south, Mockingbirds were singing delightfully—not the passionate outburst of nesting-time, but a subdued melody as though, so to speak, the birds were 'running over the keys' reminiscently. Here, too, were Boat-tailed Grackles, feeding on the berries of a tree which grew in the hotel yard. From the wide second-story, with its broad outlook over the bay to the sea islands, one could almost touch them.

The journey down the east coast of Florida was made at night, and when I awoke at sunrise we were already in the Keys. The floral change is striking. We had gone from the Subtemperate to the Subtropical. If the earth here were as favorable to plant-growth as is the air, what superb forests we might have! As it is, the growth is dense and luxuriant, if low, but when it is cleared only limestone is revealed, and one marvels that the trees can find either foothold or food.

Under the best conditions for exploration I have never found birds abundant in Florida Keys, and it is therefore not to be expected that many species would be seen from a train. Ospreys and Herons were the characteristic birds. Of the latter I saw Little Green, Louisiana, and Yellow-crowned Night Herons; Ward's and the Great White Heron; while one individual, quite near the train, had the white head which marks the puzzling intermediate between these two, so-called, 'Wuerdemann's Heron.'

There was but a single Brown Pelican, one Duck Hawk, numerous Sparrow Hawks and Florida Red-shoulders; a few Gulls (evidently Laughing), and, on the upright boards driven to the water's edge, which retain the grading on this remarkable railroad, were occasionally perched rows of Snipe. I identified, with reasonable certainty, Dowitcher, Turnstone, and Black-bellied Plover,

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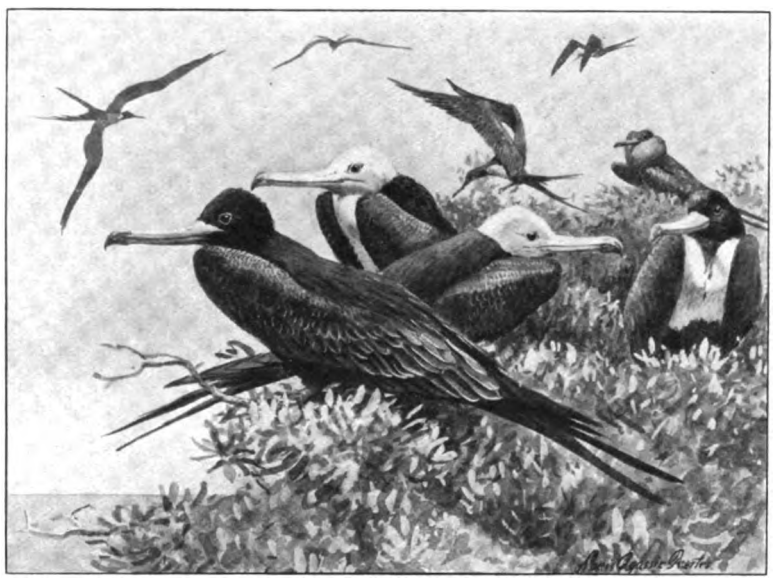
but the birds were so near—not more than 20 feet from the train—that we passed them too quickly to permit a satisfactory view.

The beauty of the morning hour, the lure of an unnamed bird darting from one thicket to another, made me long to be afoot, but the sight of two negroes standing near a smudge and making violent, and significant, gestures about their heads, indicated that life on the Keys is probably not as rosy as it looks from a car-window.

As we neared Key West, a flying form of wide wing-spread, swept overhead, and soon I counted five hydroplanes, adjuncts of the military Aviation School at which man is learning to master the air.



FRIGATE OR MAN-O'-WAR BIRDS ROOSTING ON THE MANGROVES. THOSE WITH WHITE HEADS ARE YOUNG

When I was last in Key West, twenty-six years ago, I doubt if the most enthusiastic prophet of the city's future would have ventured to predict that my next visit would be by rail, or that on arriving I should find men soaring over the town like Frigate Birds!

The voyage from Key West to Havana was made at night. Early morning revealed no birds off the coast or in Havana harbor. The Prado, parks, and playas of Havana contain, apparently, only House Sparrows, introduced at an early period in this bird's American history, I believe, from Spain. The surroundings of the city are almost equally unattractive for the bird student.

Fortunately, my mission called me to the Isle of Pines, 60 miles off the southern coast of Cuba, opposite Havana. A motor-ride of 38 miles across the island to the Port of Batabano, over a road continuously lined with arching

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trees, in the hills winds through forests of royal palms with some undergrowth, and although the early tropical morning had passed, enough birds were heard and seen to indicate a place of promise.

In view of the character of the coast, with its shallows and mud-flats and abundance of fish-life, there were surprisingly few birds off the coast at Batabaño, and fewer still near the Isle of Pines. Indeed, the lack of water-birds everywhere suggested some seasonal reason for their absence. Three Brown Pelicans, three Man-o'-War Birds, about fifteen Laughing Gulls, and half a dozen Cormorants constituted the entire list.

THE ANI. ONE OF THE COMMONEST CUBAN BIRDS. THEIR LONG-DRAWN, WHINING WHISTLE WAS ONE OF THE MOST CONSPICUOUS BIRD-NOTES

Motors and excellent roads permitted me to see a large part of the northern half of the Isle of Pines, but nowhere did I observe an apparently more favorable place for birds than the immediate surroundings of the home of William L. Pack, at La Ceiba, near Santa Fé, where it was my good fortune to spend three days. In the prevalence of birds and the general flatness of the land, the Isle of Pines suggests parts of Florida. There are, however, small hills which, singly or in short ranges, arise abruptly to a height of several hundred feet, giving, in some cases, a suggestion of mountainous horizons. The exceptional charm of Mr. Pack's home is due to the hilly surroundings and the richer, more tropical growth, with numerous royal palms which flourish along the streams of the narrow bottomlands.

The house itself is set in a grove of grapefruit and orange trees, frequented by numerous Prairie Warblers, with occasional Yellow-throated Warblers

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(whether *dominica* or *albilora* I could not distinguish), while in the high grass between the trees were Grassquits (*Tiaris*) and a few Maryland Yellow-throats. Large 'Red-bellied' Woodpeckers (*Centurus*) hopped around among the bunches of fruit which they are said to puncture, though I did not catch them in the act. Pitirris (*Pitangus*) took the place of Kingfishers, and Bobitos (*Blacicus*) equally suggested Wood Pewees.

A large mango overhanging the house made a one-night dormitory for a flock of about fifteen Anis. I found them there early one morning, roosting so closely together that a peck-measure would have covered them all. Their daily range was evidently limited, and their long-drawn, whining whistle was one of the most conspicuous bird-notes. It is to me one of the few thoroughly unpleasant, disagreeable birds' voices, wholly in keeping with the appearance of the bird, and without one redeeming feature.

The beautiful blue Thrush (*Mimocichla*) was tame and common, and cheerfully uttered a series of squawking calls exactly resembling the distress notes of a captive young Robin struggling to regain its freedom. In the Bahamas I have heard a closely allied species sing delightfully; but October is apparently no more the song-season in Cuba than it is in the United States, and the early morning hours were comparatively quiet. Ground, Zenaida, and Mourning Doves cooed softly; the Cuban Meadowlark sang its brief *wee-chur-chee-chuggle-chee*, far less musical, but suggesting in tone and form the song of our Eastern Meadowlark rather than that of the Western species (*neglecta*); the Great Cuban Cuckoo (*Saurothera*), like a Yellow-billed, but half again as long and four times the bulk, sprang his weird rattle, while, at intervals, there was a sudden and surprising outburst of screams and calls from a flock of rose-breasted Parrots, White-crowned, climbing about in the pine trees—pines and Parrots are not commonly associated. The first is here at the southern limit of its sea-level range; the second goes but little farther north, but, from force of circumstances, the birds frequent this tree of boreal origin more often than any other.

Seeing a little flock fly from a pine into a small tree, thinly branched, but with rather dense foliage at the ends of the limbs, we decided to inspect the birds at close range. At a distance of 30 yards, close examination, with and without a glass, revealed only five birds, but as we clapped our hands seventeen birds flew from the tree!

I should like to return to the Isle of Pines in April, when the Thrushes are doubtless singing and possibly thousands of north-bound migrants make it their resting-place.

HAVANA, *October* 17, 1918

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CHIPPING SPARROW IN WINTER PLUMAGE
Photographed by Elton Perry, Austin, Texas

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When the North Wind Blows

By A. A. ALLEN, Ph D., Assistant Professor of Ornithology, Cornell University
With photographs by the Author

THERE is something incongruous about birds and snow that appeals to one. The association of birds with flowers and green trees is so much a part of man that when a flock of Larks whisks by in a snowstorm, or when a tiny Chickadee perches on an icicle near his window, it gives him a thrill quite out of keeping with the weather. So strong is the association of ideas in the human race that it is difficult to convince some persons that there are birds that really thrive in cold weather and that prefer braving a northern winter to migrating to the sunny South. Some even think that the birds found in winter are the poor weaklings that have been left behind, which must therefore be cared for until spring.

If most of us were asked the best time to study birds, we would answer, with one accord, May, the month of migration, when the woods and fields are teeming with birds and the air resounds with their songs. Perhaps it is, at least for those who need the inspiration of balmy air and music and abundance of life. Certainly none of us can escape the charm of bird-migration. But the student of the home-life of birds can hardly wait for the migration to cease and for the birds to begin nesting. And when the nesting-season is about over, in August and September, and song-birds become uninteresting to most people during their molting, there are the mud-flats, the marshes, and the shores that attract the water-birds. What joy it is to lie in wait for the returning Sandpipers and Plover and to stalk the Herons and the Rails! Then comes the fall migration, often with many surprises, and, following it, the winter, the time to get out the camera and the time for the beginner to practise to his heart's content. For the winter birds and the feeding-stations offer numberless opportunities, and there is no chance for the catastrophes to young birds that sometimes result when inexperienced persons try to learn bird-photography in the summer. Each winter brings something new, and the sport never becomes monotonous. What if one has photographed a Chickadee fifty times before? Each winter it behaves differently, and one can always improve on the pictures he already has. One year there is an invasion of Evening Grosbeaks; another year it is Lapland Longspurs; last winter it was Northern Shrikes. It is never twice the same, and the problem of getting the different birds to pose for their pictures will occupy more than the leisure of even the most resourceful, winter after winter.

There are two general methods of procedure in winter photography: The one, baiting the birds up to you at permanent feeding-stations, and the other, going after particular birds and baiting them on their own ground at temporary feeding-stations. In the first method we usually establish a number of feeding-stations early in the season in promising places and keep the food replenished. The regular winter birds soon find these, and if any unusual ones

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pass in the vicinity, they are apt to follow the other birds and remain with them. If the feeding-stations are properly scattered about the country, nearly every bird can be secured in this way. On the tip end of one log in a city yard, where we kept food for two years, we secured photographs of seventeen different kinds of birds, and a few others, that we did not succeed in photographing, visited the log.

The other method is to wait until one discovers where the desired birds are feeding and then replenish their supply with as nearly the same kind of food as convenient. Usually they will keep returning to the same spot until the food is exhausted, and will even come back to it from time to time if one forgets to

"THERE IS SOMETHING INCONGRUOUS ABOUT BIRDS AND SNOW THAT APPEALS TO ONE." A WINTER CHICKADEE

replenish the supply. For example, a small flock of Prairie Horned Larks, containing a single Lapland Longspur, was discovered feeding in a patch of weeds. The weed seed would soon have become exhausted and the birds have gone elsewhere before becoming accustomed to a camera had we not tramped down the snow in the vicinity and sprinkled chick-feed. This supply was maintained from day to day, and the birds soon formed the habit of coming there to feed. Others followed them until there was a flock of over a hundred Larks, five Lapland Longspurs, and a few Snow Buntings. Had we at this time put up a camera focused on the grain, in an attempt to photograph them, we would probably have frightened them all away. Instead, a box was placed in the snow when the feed was first put out, and the birds were accustomed to it from the beginning. Another box, with a hole in one end through which the

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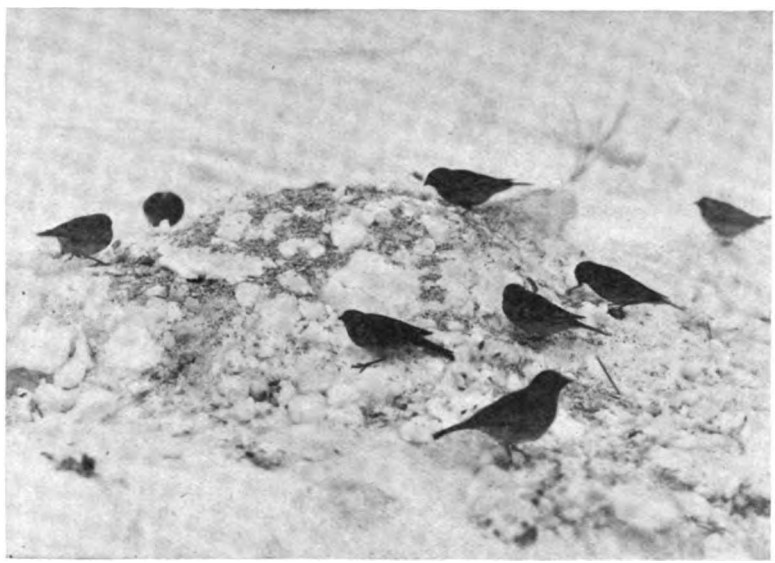
camera could be pointed was placed upon it. When the camera was put in place, the birds never noticed the difference. They were not frightened away, and no time was lost waiting for them to become accustomed to it. It was merely necessary to wait for the birds to arrange themselves properly before pulling the thread.

Another occasion arose during the past winter. A Northern Shrike was observed to dash into an arborvitæ hedge near the house in pursuit of some House Sparrows. Investigation showed the wings of four Sparrows on the snow beneath the hedge, proving that the Shrike had been there before and would probably come again. A dead Sparrow was, therefore, fastened to the tip of a



LAPLAND LONGSPURS AND PRAIRIE HORNED LARKS AT A FEEDING-STATION. EVERY WINTER THERE ARE NEW BIRDS TO BE PHOTOGRAPHED

branch near the hedge. Two weeks passed, and the frozen Sparrow dangled in the wind until one morning all but the leg by which it was fastened disappeared. Later in the day the Shrike was seen fluttering at the tip of the branch, trying to pull off the leg. No more Sparrows were available, but a Duck that had died furnished a piece of flesh with feathers attached. This was fastened in the place of the Sparrow, and the camera, covered with its gray box, was focused upon it. The Shrike soon returned, but since it was beginning to snow and the branch was swaying in the wind, conditions were impossible for photography. A 4-foot stake was therefore driven into the snow below the branch, and the piece of Duck nailed to the top of it, so that there would be no motion. It was now snowing hard and so dark that an exposure of one-fifth of a second with the diaphragm at stop *f*/6.3 was necessary, but when the Shrike returned, he remained quiet enough to give a fairly satisfactory picture.

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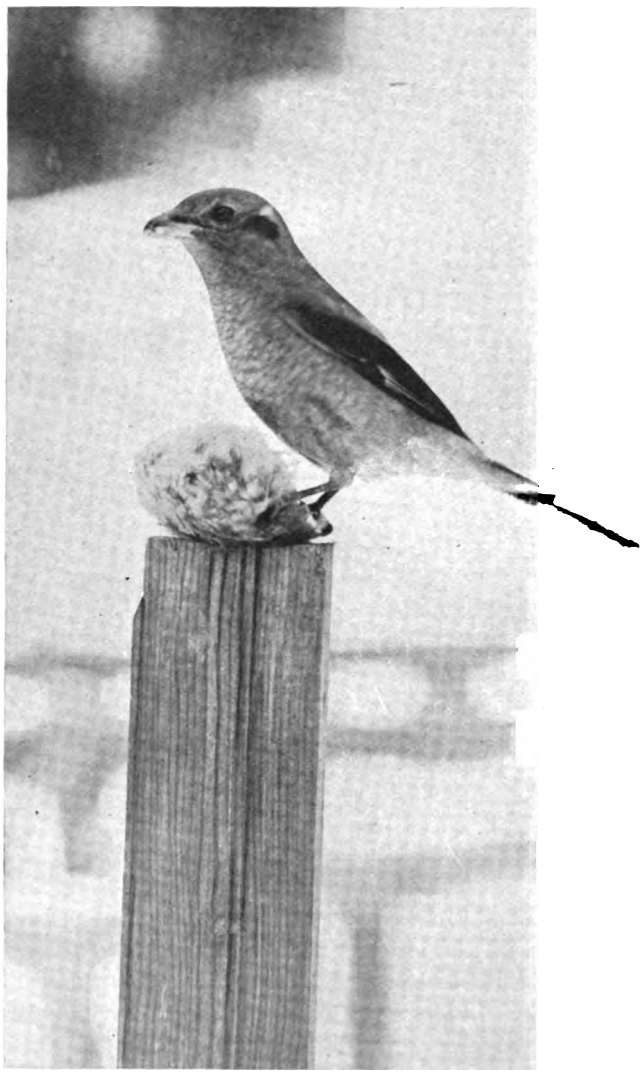
The Shrike seemed unable to hold the food beneath his feet and tear off pieces as do the Hawks and Owls, or even the Chickadees. The post was not large enough for him to perch beside the meat as he would liked to have done,



A NORTHERN SHRIKE AT ITS FEEDING-STATION
The bird could not pull off the bits of suet when standing upon it. It is here seen resting between bites

so in order to get it, he either hovered before it like a Hummingbird or clung to the post like a Woodpecker, as shown in the accompanying photograph. Later on, he gave us many opportunities to observe this habit, for we fed him

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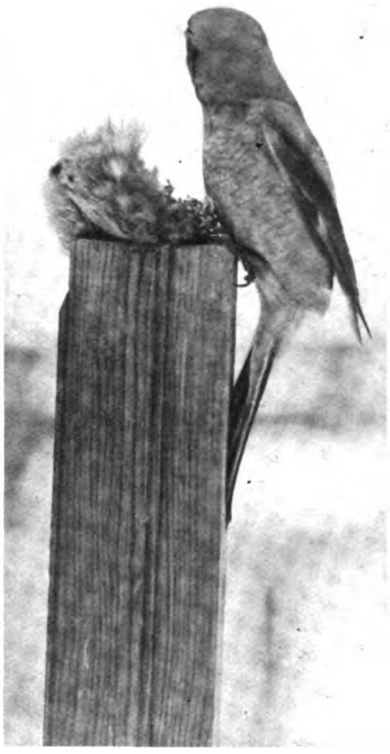
mice and Sparrows for two weeks. In every case he perched at one side of the food instead of directly upon it. When he secured a piece too large to swallow, instead of holding it beneath his foot, as might be expected, he flew to a nearby pear tree and wedged it in a narrow fork so that he could get sufficient leverage to pull it to bits. It occurred to me that this might be the origin, if not the immediate cause, of the habit shared by his relatives, of impaling food upon thorns, that is ordinarily spoken of as 'storing.' We, therefore, brought in a small thorn tree and impaled a mouse upon one of its thorns, thinking it might serve by auto-suggestion to inspire him to do the same. He relished the mouse but seemed rather clumsy in the bush, as though he did not care for thorns, and even when opportunity offered, he did not take advantage of them but flew to the pear tree and wedged his food in the narrow forks according to his custom. The southern Migrant Shrikes and Loggerheads, however, are more partial to thorn trees and may have learned to use the thorns as more convenient than the forks.



THE SHRIKE IN THE ACT OF EATING
There was not room on the post to perch beside the food, and in order to tear off bits, it had to hover like a Hummingbird or perch like a Woodpecker, as here shown.

The Shrike finally made regular visits to our meat-market and did not mind the appearance of an umbrella blind, nor even the rattle of a motion-picture camera. Thanks to his fearlessness, we now have a permanent record in motion-pictures of just how the Shrike eats, as well as a partial record of just how he catches a Sparrow, by making a head-long dash at it, relying upon the surprise of his onrush to put the victim at a disadvantage. If he misses his prey in the first rush, he seems to realize that he has lost his best chance and does not carry the pursuit further. On one occasion he made a dash at some Sparrows in a wire trap and, when unsuccessful, he did not persist and try to get at them through the bars, as a Sparrow Hawk would have done, but immediately flew back to his perch and waited for the excitement to die down.

It was interesting to see the reactions of the different birds to his presence. The House Sparrows all rushed for the hedge and hopped about in its thick

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branches, chippering excitedly, but the native birds, at the first alarm, froze immovable wherever they happened to be. A Song Sparrow on an open feeding-shelf, a Junco on a bare branch, and several Juncos on the open snow remained motionless for twenty minutes and as long as the Shrike was quiet. As soon as he moved or darted at a bird, they all made for the hedge, except the one pursued, which made off through the open. The Chickadees, among the native birds, were an exception. They could not remain quiet for more than a few minutes without getting nervous, when they would fly to the tree over the Shrike's head and scold him.

That the freezing method had its advantages was evidenced by the fact that all of the birds captured by the Shrike, in so far as any traces were left, were House Sparrows. Strangely enough they were all male Sparrows. Apparently their fluttering drew attention to themselves, and since they never left the hedge, they were more easily cornered than the native birds that took to flight in the open when pursued.

FEEDING-STATIONS OFFER ENDLESS OPPORTUNITIES TO THE PHOTOGRAPHER

To show all of the distinctive marks of a species in one photograph requires a good deal of ingenuity and patience. Tree Sparrows

The permanent feeding-stations have many advantages over the temporary ones that one establishes in going after some particular bird. One advantage is that a permanent shack or 'Chickadee barn' can be erected in which one can sit with his camera and photograph to his heart's content without scaring the birds away. If one does not wish to build a blind of boards, one can use an umbrella

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DOWNY AND HAIRY WOODPECKERS AT A SUET-STATION
'Double-headers' offer a new field for those who have photographed all the birds that come to their feeding-stations

blind, though it is rather cold and cramped for winter use and does not last long if left in a permanent position. A box to conceal the camera, which is manipulated from a distance by a thread or electric device is the next most satisfactory way. At any rate, the blind or box should be kept permanently in place so that the birds will be accustomed to it and no useless waits ensue.

The first ambition of the winter bird photographer is naturally to secure as perfect a picture as possible of each bird that comes to the feeding-station. When these have been secured, however, one has really only begun. One pose of a bird will not show all of its distinctive marks. If one wishes to show well the spot on the breast of the Tree Sparrow, for example, he must take a front view of the bird, but this will not reveal the conspicuous wing-bars nor display the bird to advantage. Again, photographs of the Downy and Hairy Woodpeckers look very much alike, because there is ordinarily nothing in the photograph by which one can judge size. We took a good deal of pleasure, therefore, at one feeding-station, in drilling a hole clear through a small sapling and filling it with suet so that a bird could feed on one side of the tree without disturbing the bird on the other, and both be in focus at the same time. In this way many double-headers' were taken, but it was some time before we got the Downy and Hairy together and showed, photographically, the difference in size of the two birds.

(To be concluded)

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Homeland and the Birds

By MABEL OSGOOD WRIGHT

ALL the land is astir, and every loyal heart in it is striving for the winning of the Great War that shall make the earth safe for its people. From college, laboratory, workshop, field, hospital and home the people are flocking to make the winning sure and lend aid to the fighters. Men, women, children, all eager to do their part in the way that seems best, those who cannot go over seas, often doing double tasks to release those who can go forth.

We are lending our money for our country's need; we are denying ourselves sugar to help the shell-shocked soldier boys grow strong again; we are conserving every scrap of food that it may be used as a bulwark against grim famine; but are we stay-at-homes, whose part is equally necessary in the great wartime fabric, doing all we can to keep the Homeland at its 100 per cent value? Are we doing our best to keep alive the organizations for its conservation upon which so much time, money, and personal effort have been lavished during the past score of years?

. . . . . .

Last spring, at twilight, a mother stood in her garden near here, waiting for the coming of her son just grown a man, who was to say goodbye before going 'over there.'

The flower-beds showed bare spots; such blooms as were there looked straggly and uncared for. Presently a step came behind her and the strong arms that at first nearly crushed her relaxed and led her to one of the garden seats, while in the content of being there, the young man's eyes scanned the home acres.

"Why, what is the matter with the garden, Mother? You don't seem to have gone at it at all, and you've always been so keen. You're not ill, are you?"

Avoiding his searching eyes by shading them with her hand, she answered with a forcedly steady voice:

"You will not be here to see them, so I meant to let the flowers go this year; or else plant food-stuff in their place. It seems to be right these days that we should only give our time to useful things, my son."

"Useful things! Nonsense, Mother. Home is always useful and something that will help a fellow as much as food. That is, I know that they will help me. Wherever I am I want to be able to close my eyes and see you here in your garden. I want to see the breakfast table with the roses on it between you and as much of dad's head as can be seen above the newspaper. And, for heaven's sake, Mummie, watch out for the Quail that nested down beyond the brush-lot—draw them up this way by feeding and later don't let those scamps across the river break up the covey! If I didn't think someone would look after my real home country, I couldn't bear to leave it."

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This mother made her garden in the between times, when her fingers were cramped with knitting and her eyes too full to see the needle's eye. While as to that dreaded "across the river" crowd, they fell and kept away after one experience with an irate little woman who was feeding the Quail as a lure to a winter shelter of cornstalks, set up with her own hands on the wood-lot edge. The poachers, finding to their cost that at least when it comes to keeping faith with a son at war, the most gentle "female of the species is more deadly than the male."

All this is a lengthy text to a very short sermon that I would preach to my fellow workers for the preservation of the Homeland of the men and women who have gone forth; that on their return they may find it the land of joy, beauty and promise as it lives in their memory. Most especially do I make a plea for the bird and its preservation and the trees that give it shelter.

Very few person in general understand the double menace to bird-life that is coming with the approach of the winter of 1918–19—the withdrawal of many game-wardens (who were also the chief legal protectors of song-birds) from the field and the very great cost and difficulty of obtaining suitable material for the feeding of our winter-residents or visitors.

Coupled with these two dangers may return that of last year, when the below-zero winter drove a starving horde of birds of prey from the north, the Great Horned Owl to feed on the game-birds, and the Northern Shrike to practise, even in the confines of *Birdcraft Sanctuary*, his butcher-bird habits, that purely sentimental bird-lovers seek to deny.

The money, such as it is, that allows the Fish and Game Commission to be efficient here in Connecticut, for example, comes from the licenses of hunters, a class of men almost wholly drawn heretofore from those of draft age, who either are or will be absent, and I must suppose that the same is the case in the majority of states. Also, already, in several states, protective laws are trembling in the legislative balance and pretended sportsmen who are poorly disguised pot-hunters at heart, are whimpering for the "right to increase the food-supply" by literally killing the source of all future game-bird life in the same way as the Passenger Pigeon was slaughtered.

Federal migratory bird-protection is now a law, as well as the *Enabling Act*, but who shall see that these are live and not dead measures?

We, the people to whom circumstances entrust the care and conservation of the Homeland of the United States of America, the trust left us by our soldier boys, should do this work, not in the place of other necessary war requirements, but as a mentally necessary rest from them.

The tendency among many ardent patriots is to rush to something newly organized, if it particularly appeals to their craving for the heroic, rather than to give a little time to the keeping up of old, well-considered and time-tried institutions.

"What can I do?" you ask, and "How shall we do it?"

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In the first place, when necessary, put the case of lack of funds for *game-warden* service fairly before your various legislatures, asking for a wartime appropriation for the deficit.

Try to bring influence to bear upon all those who, from necessity, not choice, are cutting down woodlands and brush lots for fuel, asking that they exercise reasonable care against the destruction of mere saplings that have no value other than for bird shelter. Divide your home district among the bird-lovers of the place for the purpose of winter feeding, and send out appeals to others to do likewise.

In regions infested by Starlings, or in windswept and birdless stretches of country usually snowed under, make up parties to gather sumach and bay-berries, also the seed-cones of the composites of the sunflower tribe that are relished by all the winter birds.

In short, double all your former efforts to cherish these our Sky-sweepers, Seed-killers and Weed-warriors, in their perpetual and hard-fought battle to do their work of keeping the Homeland green and fruitful.

Then let those of you who have the gift of compelling or silver-tongued speech go into the schools and gathering-places of your neighborhood, telling and repeating again and again the story of the beauty and worth of our birds and their wartime necessities, weaving into your talk the duty to the Homeland itself, to its soil, as the foundation of all lasting patriotism. And do not ask them for money for this thing or that in connection with bird-protection at this time—this year the pennies belong to Uncle Sam. Ask them for *personal service*—for a bit of their time—the bit of themselves that is most worth while and will count for more than their pennies in the end.

Friend, save the birds during the stress that is even now upon them! We need their presence to keep our courage up, the courage it takes to live to win, the courage to keep the even balance when victory is won. Help for the birds is help for our soldiers at their home coming.

"The birds that make sweet music for us all
In our dark hours—as David did for Saul."

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YOUNG SANDHILL CRANE
Photographed by H. and E. Pittman, Manitoba, Canada

The differences between Cranes and Herons are much more pronounced in the young than in the adults. Cranes have a downy natal plumage and can run about soon after hatching, while Herons are born comparatively naked and spend several weeks in the nest.

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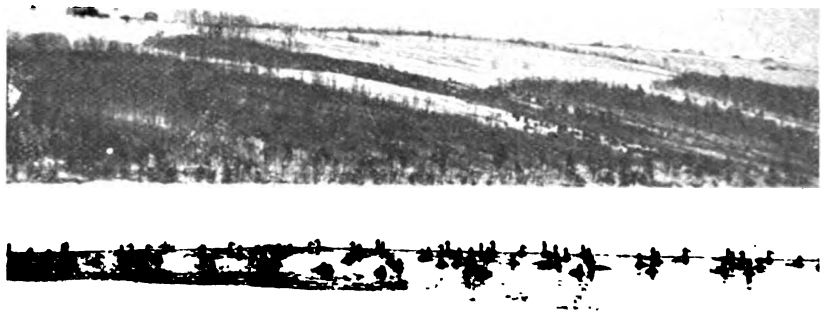

CANVASBACK DUCKS. BRANCHPORT, MARCH 3, 1914

A Wild Duck Trap

By VERDI BURTCH, Branchport, N. Y.
With Photographs by the Author

THE harbor at Branchport, N. Y., on Lake Keuka, is cut off from the lake itself by a long sand-bar through which a channel has been dredged to enable the boats to enter. This channel does not freeze entirely over, even in the coldest winter, as there is a strong current continually flowing in and out, keeping a small area free from ice all through the winter. This open area is a veritable trap for the wild Ducks, as in nearly every winter, after the lake is frozen over, a few Ducks stay on here and starve to death.

The winter of 1911–12 was particularly disastrous. January was very cold, and the lake froze over early in the month, zero weather marking early February, when I heard from the fishermen that there was a large flock of Ducks in the channel. On the 12th I went down and found that there were about fifty Ducks, mostly Canvasbacks, with many American Scaups and American Golden-eyes and a single Bufflehead, in the channel. As we neared them, the Canvasbacks took to wing, the Scaups and Golden-eyes crowding to the opposite side of the channel. The Canvasbacks soon came back, circled around a few times, and dropped in with the others. One female, however, was weak and could not sustain her flight long enough to reach the water, but dropped on the ice and flopped along until she was again in the water.

February 13, there were about 150 Ducks in the channel, including one

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American Merganser. A large box with sides of strawboard, in which holes were cut for observation and for the lens of my Graflex, made me an excellent blind. This was pushed out to the edge of the ice February 15, disturbing but a few of the flock, which now had increased to more than 500. I had but just concealed myself when a bunch of Scaups came back, circling around, and my camera caught a female Scaup coming to the water on a turn, wings fully extended, feet wide apart, with the toes spreading the web to the utmost as she back-pedaled to the water. Then came the Canvasbacks, circling again and again, a few dropping in each time around, their wings forming a parachute as they neared the water and the toes turning up as they tobogganed into it.

We made several attempts to feed the Ducks with wheat, corn, and chopped cabbage. This was thrown out into the water, and while we did not see them feeding, I think that they did get some of the corn and wheat. One day I took a dead Golden-eye from one of the fish-lines that was let through the ice near the channel. It was hooked through the wing, evidently having struck the hook while searching for food.

Sometimes a large flock of the Ducks would sit out on the ice in the middle of the lake for days at a time, and one day we went out to them. As we drew

AMERICAN SCAUP (FEMALE) ALIGHTING IN A FLOCK OF SCAUPS AND CANVASBACK DUCKS. BRANCHPORT, FEB. 15, 1912

near, all flew away except a female Scaup. She was too weak to fly and we carried her home and fed her some minnows and scraps of beef. The first minnow was forced down her throat, and as soon as she swallowed it she became ravenous, picking at our fingers and clothing, and took the minnows from our fingers the moment they were offered; however, the feeding came too late, and she died the next day.

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Coming back to the channel, we found one poor Canvasback floating on the water, dead, and another struggling to keep her head above the water, but she soon gave up, turned on her side, and after a few gasps was still. Every day, now, there were more dead Ducks. They floated to the edge of the ice, the Herring Gulls and Crows coming and dragging them out on the ice, where they picked the meager flesh from their bones. Some animal must have carried the bones away, for after a few days a few feathers were all that remained on the blood-stained snow. It has always been a mystery to me why

CANVASBACK DUCKS. BRANCHPORT, FEB. 13, 1912. "THEIR WINGS FORMING A PARACHUTE AS THEY NEAR THE WATER, AND TOES TURNING UP AS THEY TOBOGGAN INTO IT"

these Ducks remained here, slowly starving to death, when Seneca Lake, with its open water, was only 12 miles away, and it would seem that they could see this water when they were up in their flights.

February 21 brought a thunderstorm which was followed by high winds and intense cold. Many of the Ducks must have been up in the air and got caught in the wind and blown away over to Seneca Lake as, when the calm came on the 23d, there were but forty or fifty Ducks left in the channel. I picked up three Canvasbacks (two drakes and a duck) that were stranded on the ice, and soon had them eating oatmeal gruel. They were fed and cared for

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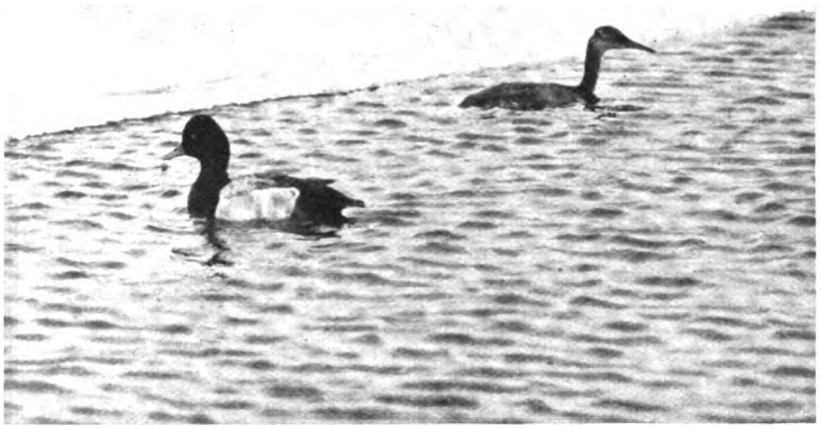
until the middle of April, when they were sent to the New York Zoölogical Park.

Only 19 Ducks were in the channel February 25: 12 Canvasbacks, 6 American Scaups, and the Bufflehead. March 5, the little Bufflehead was the sole survivor from the flock of 500 or more Ducks that were in the channel early in February. Here she stayed on, and on March 10 was flushed from the water and made a sustained flight of five minutes' duration. At this time there was a Holbœll's Grebe with her which stayed until the 16th. The Bufflehead was last seen March 17, when the ice began to break up, and, as other Ducks (Mallards, Scaups, Baldpates, Mergansers, and Golden-eyes) were then arriving, I have no doubt but that the little Bufflehead fully recovered and joined others of her kind on their northern migration.



AMERICAN SCAUP DUCK AND HOLBŒLL'S GREBE. MARCH 19, 1916. THE BACKGROUND IN THIS AND THE SUCCEEDING PHOTOGRAPH IS SNOW-COVERED ICE

Never, since 1912, have so many Ducks been caught in this trap, but a few do get caught there every winter. Canvasbacks and Scaups are the principal victims, and sometimes we find dead Golden-eyes and Black Ducks. Gadwalls, Pintails, and Redheads sometimes stop in the channel for a day or two, and sometimes after a severe storm a Holbœll's Grebe is found there.

The first half of March, 1916, was very cold, with high winds and much snow. A Holbœll's Grebe was brought to me the 16th that was found on the snow in an orchard. I fed it scraps of beef and minnows, but it survived only a few days. Another Grebe was in the channel the 19th. It was very cold, the thermometer registering only a few degrees above zero, and the open area in

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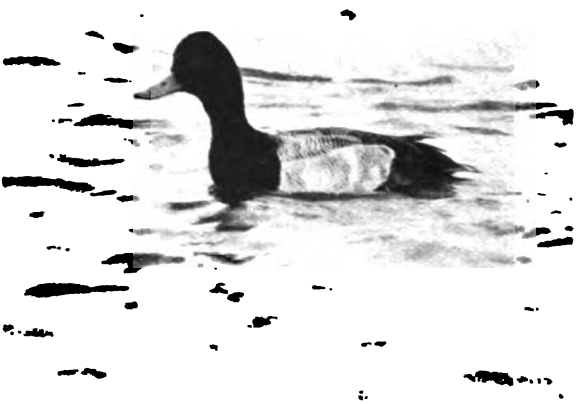
the channel was the smallest that I ever saw it, being only about 3 rods long and 1 rod wide. An American Scaup drake was out on the ice, and as we came up he managed to fly back to the open water. The water was shallow, so I could wade out and crowd the Scaup to one end of the opening until he was forced to pass close by me, making a fine target for my Graflex. The Grebe would not consent to be crowded, but would dive, remaining under water for a long time, sometimes so long that I was afraid that it had got caught under the ice. However, it always managed to come up in the open.

Before the shooting season was shortened (closing January 15), any Ducks that remained after the lake was frozen were soon killed or driven away by the hunters, so it is only of late years that they have remained here to starve. The winter of 1911–12 was the one year in which the fatalities were greatest.



AMERICAN SCAUP DUCK (MALE)
BRANCHPORT, MARCH 19, 1916

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The Migration of North American Birds

SECOND SERIES

VII. MAGPIES

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

AMERICAN MAGPIE

The American Magpie (*Pica pica hudsonia*) breeds in western North America, north to southern Manitoba, southern Saskatchewan, central Alberta, middle Yukon, and the eastern Aleutian Islands in Alaska; west to the islands of southern Alaska, Vancouver Island in British Columbia, western Washington, western Oregon, and eastern California; south to northern Arizona and northern New Mexico; east to western Kansas, western Nebraska, and central North Dakota. In nearly all parts of its range it is resident, except possibly in the northernmost areas; but in winter it wanders more or less, south to central western Texas, and east to Indiana, Michigan, and Ontario. It also has straggled to Montreal, Quebec; Albany Fort, northern Ontario; and York Factory, northern Manitoba.

Some of the eastern records are: Parker's Prairie, Minnesota, December, 1910; Winnebago County, Iowa, spring, 1875; Corning, Missouri, April 23, 1911; Saline County, Missouri, November 1, 1890; Bailey's Harbor, Wisconsin, November 15, 1849; Dunn County, Wisconsin, February, 1884; Chicago, Illinois, October 17, 1892; Knoxville, Illinois, May 16, 1896; Bicknell, Indiana, February 10, 1908, and December 24, 1909; and Odessa, Ontario, March 12, 1898.

YELLOW-BILLED MAGPIE

The Yellow-billed Magpie (*Pica nuttallii*) is confined to the state of California, where it is a permanent resident, though apparently less numerous and less widely distributed than in former times. Its principal range is now the valleys of the Sacramento and San Joaquin rivers, but it has been reported north to Tehama County; west to San Francisco and Monterey County; south to San Diego; and east to Placer County.

NOTE.—For a photograph of a Magpie at a winter bird-table, see BIRD-LORE, November-December, 1910.

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Notes on the Plumage of North American Birds

FIFTY-FIRST PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

American Magpie (*Pica pica hudsonia*, Figs. 1, 2). The male and female Magpie are alike in plumage, and the young bird when it leaves the nest differs in color from its parents only in having all the black areas dull instead of glossy, the white scapular patches tinged with buffy, and more or less white showing through the black feathers of the throat and breast. The wing- and tail-quills, while not fully grown, resemble those of the adult, and at the postjuvenal molt these feathers alone are retained, while those of the body are shed. The young bird is now indistinguishable in color from the adult. There is no spring molt, and summer plumage closely resembles that of winter. The postnuptial molt, as usual, is complete but produces no change in appearance.

The plumage and plumage changes of the Magpie are therefore as simple as are those of any other bird.

Bird-Lore's Nineteenth Christmas Bird Census

BIRD-LORE'S Annual Bird Census will be taken as usual on Christmas Day, or as near that date as circumstances will permit; *in no case should it be earlier than December 22 or later than the 28th*—in the Rocky Mountains and westward, December 20 to 26. Without wishing to appear ungrateful to those contributors who have assisted in making the Census so remarkably successful, lack of space compels us to ask each census taker to send only *one* census. Furthermore, much as we should like to print all the records sent, the number received has grown so large that we shall have to exclude those that do not appear to give a fair representation of the winter bird-life of the locality in which they were made. Lists of the comparatively few species that come to feeding-stations and those seen on walks of but an hour or two are usually very far from representative. A census-walk should last *four hours at the very least, and an all-day one is far preferable*, as one can then cover more of the different types of country in his vicinity, and thus secure a list more indicative of the birds present. Each report must cover *one day only*, that all the censuses may be more comparable.

Bird clubs taking part are requested to compile the various lists obtained by their members and send the result as one census, with a statement of the number of separate ones it embraces. It should be signed by all the observers who have contributed to it. When two or more names are signed to a report, it should be stated whether the workers hunted together or separately. Only censuses

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that cover areas that are contiguous and with a total diameter not exceeding 15 miles should be combined into one census.

Each unusual record should be accompanied by a brief statement as to the identification. When such a record occurs in the combined list of parties that hunted separately, the names of those responsible for the record should be given. Reference to the February numbers of BIRD-LORE, 1901–18, will acquaint one with the nature of the report that we desire, but to those to whom none of these issues is available, we may explain that such reports should be headed by the locality, *date*, hour of starting and of returning, a brief statement of the character of the weather, whether the ground be bare or snow-covered, the direction and force of the wind, the temperature and the distance or area covered. Then should be given, *in the order of the A. O. U. 'Check-List'* (which is followed by most standard bird-books), a list of the species noted, with, as exactly as practicable, the number of *individuals* of each species recorded. A record should read, therefore, somewhat as follows:

Yonkers, N. Y. (to Bronxville and Tuckahoe and back).—Dec. 25; 8 A.M. to 4:30 P.M. Clear; 5 in. of snow; wind west, light; temp. 38° at start, 42° at return. Eleven miles on foot. Observers together. Herring Gull, 75; Bob-white, 12 (one covey); (Sharp-shinned?) Hawk, 1; . . . Ruby-crowned Kinglet, 1. Total, 27 species, about 470 individuals. The Ruby-crown was studied with 8x glasses at 20 ft.; eye-ring, absence of head-stripes and other points noted.—JAMES GATES and JOHN RAND.

These records will be published in the February issue of BIRD-LORE, and it is *particularly requested* that they be sent to the Editor (at the *American Museum of Natural History, New York City*) by the *first possible mail. It will save the Editor much clerical labor if the model here given and the order of the A. O. U. 'Check-List' be closely followed.*

Those readers who take part in the Christmas census this year will find it very interesting to examine the censuses from their part of the country in years gone by, which will be found in back volumes of BIRD-LORE, and to note how the northern birds vary in the different winters. Reference to 'The Season' Department of the present issue will show that up to the middle of this October there had been no incursion of the Pine Siskin or other northern Finches, as during some autumns, and observers fortunate enough to find these on the Christmas Census should take particular pains with their identification. The Red-breasted Nuthatch, on the other hand, has rather generally moved south. We also would call to the special attention of observers who are able to be in the field this winter, the article on winter birds, by Dr. A. A. Allen, published elsewhere in this issue of BIRD-LORE.—J. T. N.

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Notes from Field and Study

Red Crossbills in Seattle

Seattle has had an unusual visitation of the erratic Red Crossbills this year. Flocks of these birds have been in and about the city for the entire months of May and June and are still to be found this first week in July. They are often seen in gardens on the shade and orchard trees, and have been heard many times flying overhead, their metallic *tink tink* being unmistakable.

Their presence here seems to be another proof that the birds come when we need them most. The aphis have been swarming over all forms of vegetation this year, and in every case where the Crossbills have been found feeding, they were eating aphis. In the elm trees and the fruit trees the aphis injure the leaves, causing them to curl up. As I stood under an elm tree, where the Crossbills were feeding, these leaves kept dropping at my feet, and in every case they had been cleaned of the aphis by the birds. In holding them to get a better grip they had torn the leaves off.

The birds are in various colored dress, but many are in the mature plumage, and one wonders when and where they will nest this year, if at all. No single pairs have been noted, the birds always being in flocks of from ten to twenty.—M. I. Compton, *Seattle, Wash.*

Maine Notes

This has been a fine year for birds in Maine. All the usual species are abundant, while several rarer ones have been seen. On my premises there are three trees; each was occupied this season, one by a pair of Bluebirds, the second by Robins, and the third by Cedar Waxwings. I have enjoyed watching these birds for hours, and all have safely raised one brood, and the Waxwings and Robins are feeding their second (August 8).

Probably the place that is resorted to most by bird-lovers of this section is Riverside Cemetery, along the banks of the Androscoggin River. It is a beautiful spot and ideal for bird-study. On one of my walks there I identified forty-one species. On this walk I saw and identified the Golden-winged Warbler, which is a very rare bird for Maine.

I am glad to be able to report that Bobwhite are on the increase in this section of the state. While I was camping at Takoma, Me., I saw and heard a great many of them, while last year they were quite rare.—Haydn S. Pearson, *Lewiston, Me.*

Golden-eye Duck Carrying Young

The following observations upon the method by which tree-nesting Ducks bring their young down to water may be of interest. I have a summer cottage on Hopkin's Point, on the St. Lawrence River, in the township of Dundee, province of Quebec. Early in June a pair of wild Ducks were observed nesting in a tree some 30 feet from the front door of my cottage. The nest was in a hole in the tree about 18 feet from the ground, the opening being barely large enough to admit the parent bird. The Ducks were easily identified as the common Golden-eye, called also Whistler, from the sound of their wings in flight. The drake had a black head and back, with the neck, lower parts, and a patch on the cheek of white. The Duck had a reddish brown head and the upper portion of the body mottled gray instead of black. Both had white patches on their wings and bright yellow eyes. I think it is impossible that there was any error in regard to the species. This Duck not infrequently breeds in this section, though not a common summer resident.

I had every opportunity, together with other members of my family, to observe the Ducks closely, but we did not make the matter public lest the birds might be

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disturbed or the nest robbed. The brooding Duck would frequently sit absolutely motionless, apparently without winking an eye, with her head out of the entrance of the hole, for some length of time. She soon grew accustomed to the presence of the campers, but when she left the nest temporarily she circled warily around the tree-tops several times before re-entering the nest. One Sunday afternoon, while the two Ducks were feeding in the bay in front of the cottage, some miscreant fired at the drake with a rifle, whereupon he squawked, rose with his mate, and the drake was seen no more. Whether he was injured or not it is impossible to say. In July it is common for the drakes of certain species to flock by themselves, and this might possibly explain why he left his mate.

The Duck, however, was seen attending to her duties as usual, and the incubation was uninterrupted. On the afternoon of July 7 the old Duck was seen at the foot of the tree, standing on the ground. She gave several low quacks or calls, and out of the hole in the tree overhead promptly tumbled about a baker's dozen of fledgling Ducks. They were unable to fly but were sufficiently grown to be able to ease their fall to the earth, and, not unlike a flock of butterflies, they came down pell-mell, fluttering and tumbling, some of them heels over head, until they reached the ground, unharmed. The tree was nearly but not quite perpendicular, so they were unable to scramble down. The old bird gathered them in a bunch and piloted them along the fence for some 3 or 4 rods to the river. Down the rocky shore they went and into the water. The old Duck then sank low in the water and the ducklings gathered over her back in a compact clump, She took them across the bay to a bed of rushes, some 10 rods distant, where they disappeared from sight. An attempt was made to count the brood but their movements were too rapid, and, naturally, during the incubation period no effort was made to inspect the nest for fear of frightening the birds away. Since no evidence of unhatched eggs was obtained, the inference would be that the eggs were all successfully hatched. Whether the method adopted of bringing down the young was the usual and customary one or otherwise, I am unable to say, but that this was the plan adopted in this particular instance is established beyond question.—W. N. MACARTNEY., M.D., *Ft. Covington, N. Y.*

The Birds I Watch from My Window

A few years ago, when we moved from the village to a new house on the hill, the only tree of any size that graced (or disgraced, some people thought) our lawn, was a weather-beaten old apple tree, so old that the trunk was split through the center clear to the ground, causing each half to lean drunkenly in an opposite direction. It was so rotted and worm-eaten that scarcely anything but the shell remained—too far gone to be cemented and reclaimed. In spite of "fuel conservation," the old tree still stands, and though every fierce wind shakes it to its roots, it still serves as a fine lunch-table to all the birds that come for food. I fasten suet on a lower limb; also, a lid from a tin pail was nailed fast to the same branch, and makes a fine container for crumbs, cracked corn, and the like. The knot-holes and many cracks in the bark I fill with peanuts, cracked hickory nuts, and other nuts, and the feast is ready. From early morning until sundown there is scarcely an hour that from three to five different kinds of birds may not be seen feeding happily together. Last winter (1916 and 1917) was the banner year as to variety. From December 1 to March 15 I identified fifteen different kinds. On the morning of December 30 a lone Robin made his first appearance. It was extremely cold, and poor Redbreast looked decidedly unhappy, as though he realized he had made a serious mistake in experimenting with a northern winter. He came occasionally after that, but was not a regular visitor. Of course there are flocks of English Sparrows, but, unlike many other observers, I have never seen them drive away other birds, though they quarrel fiercely among

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themselves for a coveted morsel, so I welcome even the English Sparrow—for with it comes the dainty Tree Sparrow, and also the Song Sparrow, that in cold weather seems willing to chum with its English cousin.

I have been much amused when watching a pair of Downy Woodpeckers. Evidently equal suffrage has not become a fact in the bird-world, for when Mr. and Mrs. Woodpecker come together for lunch, if my lady tries to get a crumb from the opposite side of the suet from which her lord and master is feasting, he flies at her in such a threatening manner that she hurriedly takes refuge on an upper branch and patiently waits until his majesty is satisfied and flies away. Then Mrs. W. flies down and eats as fast as she can. I have watched this instance of family discipline many times, and never has the lady of the family been allowed to eat at the same time as her husband—though he never interferes with the Nuthatch or Chickadee that perch by his side and peck away so sociably at the frozen suet. All day long the Nuthatches will work, picking nuts from the shells, seldom stopping to eat, but flying away to hide their treasure in the bark of a neighboring walnut or cherry tree, then hurrying back for another morsel. The cheerful little Chickadees are constant visitors, and as I watch them—even though they wear a black cap and necktie—I always think of a dainty old-time Quaker lady—they are so trim and neat in their soft gray garb. I have been unable, as yet, to coax the Meadowlark to my tree, though I often hear him calling in the neighboring wood. This year the Blue Jay has come several times and taken an early breakfast, and though he hasn't a very good reputation, he is so very handsome that I am willing to forgive his many sins, and even his harsh call sounds good to me.

Following is a list of winter birds that have come more or less regularly to partake of the hospitality of the old apple tree, some even coming to the window-sill and peering with bright eyes into our dining-room, as though asking us not to forget that we have hungry neighbors waiting outside for crumbs.

List of Winter Visitants.—Robin, White-breasted Nuthatch, Red-breasted Nuthatch (one pair), Downy Woodpecker, Chickadee, Hairy Woodpecker, Tree Sparrow, Fox Sparrow, Vesper Sparrow (one), Song Sparrow, English Sparrow, Starling, Junco, Goldfinch, Purple Finch (flock of about twenty) Kinglet, Blue Jay, Crow.—MRS. F. W. GORHAM, *Katonah, N. Y.*

Bird Horizons in the San Francisco Bay Region

A summary of what birds can be seen in the San Francisco Bay region in a series of spring trips afield may be of interest to bird students. One section of the University Extension class, taking the course 'Six Trips Afield' in the spring of 1918, was successful in noting 90 different species of birds. The trips taken with the total number of birds seen on each trip, were as follows: March 2, 1918, University of California campus, Berkeley, 26 species; March 16, 1918, Bay Farm Island, near Alameda, 27 species; March 30, 1918, Redwood Canyon, Alameda County, 13 species; April 13, 1918, Golden Gate Park, San Francisco, 20 species; May 18, 1918, Tunnel Road Canyon, Berkeley Hills, 32 species; May 30, 1918, Mill Valley to Manzanita via Big Lagoon, 52 species.

All trips occupied three to four hours on Saturday afternoons, with the exception of the last one, which was an all-day trip.

A composite list of the birds seen is as follows. Species, the nests of which were inspected, are marked with an asterisk (*).

1. Western Grebe.
2. Pied-billed Grebe.
3. Eared Grebe.
4. Pacific Loon.
5. California Murre.
6. Glaucous-winged Gull.
7. Western Gull.
8. California Gull.
9. Herring Gull.
10. Forster Tern.
11. Farallone Cormorant.
12. Mallard.*
13. Canvasback.
14. Lesser Scaup Duck.
15. Bufflehead.
16. White-winged Scoter.
17. Surf Scoter.
18. Ruddy Duck.
19. Black-crowned Night Heron.
20. California Clapper Rail.
21. Coot.
22. Northern Phalarope.
23. Western Sandpiper.
24. Hudsonian Curlew.
25. Killdeer.
26. California Quail.*

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27. Western Mourning Dove.
28. Turkey Vulture.
29. Marsh Hawk.
30. Cooper Hawk.
31. Western Red-tail.
32. Sparrow Hawk.
33. Barn Owl.
34. Belted Kingfisher.
35. Willow Woodpecker.*
36. Red-shafted Flicker.
37. Anna Hummingbird.*
38. Allen Hummingbird.
39. Rufous Hummingbird.
40. Olive-sided Flycatcher.
41. Western Wood Pewee.
42. Western Flycatcher
43. Black Phœbe.*
44. California Horned Lark.
45. Coast Jay.
46. California Jay.
47. Western Crow.
48. Bicolored Redwing.
49. Western Meadowlark.
50. Brewer Blackbird.*
51. California Purple Finch.
52. House Finch.
53. Green-backed Goldfinch.
54. Willow Goldfinch.
55. Pine Siskin.
56. Bryant Marsh Sparrow.
57. Western Lark Sparrow.
58. Nuttall Sparrow.*
59. Intermediate Sparrow.
60. Golden-crowned Sparrow.
61. Western Chipping Sparrow.
62. Thurber Junco.
63. Santa Cruz Song Sparrow.
64. Salt Marsh Song Sparrow.
65. Marin Song Sparrow.
66. English Sparrow.
67. San Francisco Towhee.
68. California Towhee.
69. Black-headed Grosbeak.
70. Lazuli Bunting.
71. Cliff Swallow.*
72. Cedar Waxwing.
73. California Shrike.
74. Western Warbling Vireo.*
75. Hutton Vireo.
76. Lutescent Warbler.
77. California Yellow Warbler.
78. Audubon Warbler.
79. Pileolated Warbler.
80. Pipit.
81. Vigors Wren.*
82. Western House Wren.
83. Plain Titmouse.
84. Santa Cruz Chickadee.*
85. Marin Chickadee.
86. Coast Bush-tit.*
87. Intermediate Wren-tit.
88. Western Ruby-crowned Kinglet.
89. Russet-backed Thrush.
90. Western Robin.*

—HAROLD C. BRYANT, *Berkeley, Calif.*

A Record of the Bald Eagle from Champaign County, Ill.

Early in May a pair of Bald Eagles appeared northeast of Rantoul, Ill., and remained in the vicinity until one of the pair was shot.

They were first noticed on May 3; after that they were seen several times in the vicinity of an old orchard and a big grove which they frequented. A farmer in the neighborhood finally shot one of them on May 7, when it perched in a low tree near a hog-pasture, after it had tried to take one of his small shoats. The wing-spread of the bird was over 5 feet.

A few weeks later, a second Eagle was shot about 5 miles south of the place where the first was killed. Presumably these two birds killed were mates, for the Bald Eagle is not such a common visitant to the central Illinois prairies that three would likely be seen within such a restricted locality in so brief a time. The last previous record was in 1915.—SIDNEY E. EKBLAW, *Rantoul, Ill.*

The Blue Grosbeak in Central Illinois

Early on the morning of May 3, this year, while our family was at breakfast, we heard bird-notes new to us, so often repeated that they could hardly be unfamiliar notes of any of our known bird friends.

Upon investigation, a quick flash of dusky blue in a low plum bush attracted my attention to the bird from whence the notes came. Careful stalking brought not only this bird, but another of even brighter blue, into plain view, so that I had no difficulty in identifying them. They were the Blue Grosbeak.

For five days they stayed about the place, as leisurely at home as if they had selected the place for summer residence; then they were gone again.

This was the first time in many years of observation of birds about my home that we had recorded this bird, so I was elated at my good fortune in seeing them—SIDNEY E. EKBLAW, *Rantoul, Ill.*

Our Summer Boarders

Last winter I hung the usual piece of suet on a tree near the porch of our house, but we had very few winter birds—an occasional Downy, but no Chickadees or Nuthatches. I left the suet hang during the summer, and it has certainly been a source of enjoyment. One family of Downies, two Catbird families, Blue Jays, and Red-headed Woodpeckers have feasted upon it, which shows it does not altogether serve as winter food.

The suet is suspended from a branch on a string, and the Downy, in his Woodpecker fashion, hangs on the suet while

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eating. The Catbird looked at the swinging suet many times, and at last, to our amazement, perched on the suet as did the Woodpecker, but perhaps not with such firmness.—MRS. A. W. BRINTNALL, *Glencoe, Ill.*

Our Winter Bird Neighbors

Are you feeding the birds these snow-bound, zero days? I often wonder which is in the greater need—the birds in the grip of the cold wave or we in the grip of these heart-chilling wartimes. But when it comes to the question of which receives the greater reward, there is no doubt in my mind—the birds pay a big rate of interest.

This is the way it began. The house is responsible for the first suggestion, for the architect, some eighty years back, startled this little village by departing from the Colonial and daring French windows and Italian balconies. What could be better adapted for feeding the birds? In fact, do not balconies in the light of their being otherwise impractical for everyday use, proclaim themselves, above all, bird-feeders?

The next suggestion came from the birds themselves when, upon the first soft fall of snow, just before Thanksgiving, there was disclosed from the dining-room a lacework of tiny footprints on the balcony, leading right up to the window. To disregard such an appeal seemed out of the question, and I made all haste to tie a small chunk of suet to a corner balcony-post. In less than ten minutes a pair of White-breasted Nuthatches were voraciously tearing out tiny chunks, flying off to the maple-pole, lodging them to fit in a crevice in the bark, and 'hatching' at them fiercely with their long bills. When the tray of mixed bird-seeds found its way outside the window, however, they transferred their interest at once and daintily chose the sunflower seeds, paying attention to the suet only rarely. During our own Thanksgiving dinner we watched them with great satisfaction and agreed that their *yank, yank* on arrival and departure was their formal thanks for the sunflower seed received.

Close upon the heels of this success, two other dining-porches were installed, one on the south and one on the west side of the house. The balcony first commissioned, being on the east, serves as their sunny breakfast-porch. As our own breakfast appears on the table each morning, out goes the tray of seeds, newly replenished and generously sprinkled with the handsome, striped sunflower seeds. Can you imagine anything more delightful than breakfasting with the birds? What could put one in a better humor for the day than to be able to mingle with the delightful taste of the breakfast coffee the still more delightful sight of the arrival of the dapper, friendly, little Nuthatch who never fails to greet you with courteous thanks as he arrives and departs? It serves to strengthen one's lurking suspicion that it is after all the guest who should receive the thanks rather than the hostess.

Their midday meal is spread upon the southern balcony and supper on the western, where the chill of the coming evening is tempered by the last rays of the sun. They attend a sort of moving-feast, you see, or might we not say that they chase their meals around the house? That reminds me of the story of a husband of the modern wife who, after having been dined in all the rooms in his house in rotation, was reported to have said in a resigned tone, "Well, I suppose we will be eating in the cellar next."

The first days I spent breathlessly tiptoeing about the house and cautiously peering from behind curtains to see whom my guests might be. The whole house took on an expectant attitude. Even the cook, obdurate soul, became infected. She whose first pose was that of pitying tolerance toward a household of feeble minds, was discovered, during the pursuance of her daily routine, directing furtive glances at the bird-trays. Of course, we have not extracted an admission from her but, on the other hand, there have been subtle indications of a change in temper that could point only one way. The birds did it!

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The Downy Woodpecker, the Nuthatches' boon companion, was our next guest attracted by the suet, which he still favors. He was an arresting sight. Such style to his black-and-white costume of contrast, set off the more vividly by the splash of blood-red on his head! Is it a case of hereditary nerves in the Woodpecker family which occasions the feverish glancing and swaying of the head from side to side before the vigorous attack upon the suet, or do you think that it is all done for effect—to display to full advantage that flashing crest in the sunlight? Does the fact that his spouse does not possess that distinguishing brilliance make it more valuable in his eyes? Of course, we will have to admit, will we not, his eyes in this case are her eyes, for how could he know about his superior marking if she did not tell him?

The Chickadees we have watched for early and late, knowing them to be associates of both Nuthatch and Downy, but not until today did they put in their appearance. Cousin Nuthatch brought them down from the woods and introduced them to the suet right before my eyes. Veritable puff-balls of feathers! Small wonder they seek shelter in the pines against the winter gales. While I write I can look out upon the large maple facing the window and see the Downy mounting high up the tree-trunk, holding himself regally, with lofty crest. Just below him is the Nuthatch, head down, vigorously claiming with his long bill the attention of some grub imbedded in the bark, while out on the end of a branch hang the two Chickadees, giving a demonstration in tumbling that would take the heart right out of a Swedish gymnast.

You see I have begun with our feathered aristocracy, whom we love but who do not begin to afford us the real amusement which we derive from the proletariat of the air, the English Sparrow. They, as could be expected, were right on hand to receive everything coming their way, but all the time ready to duck when signs of life appeared at the window—like guilty consciences in dirty-faced little ragamuffins, all ready to cry, "Cheese it, the cop!" and be off.

The most amusing thing about them was the apparent utter astonishment they displayed at being treated so well. For a week after our trays went out they stood singly and in groups, gaping in at the windows and chattering discussions as to the probable meaning of such a phenomenon. I think their conversation must have run something like this: "Gee whiz! What's struck these folks anyway. We've been living in these parts long enough to lose our cockney accent and nothing has happened like this before. Rumple our feathers! if we can make out what's up. One thing's sure we've got to keep our weather-eye out for any minute they might turn and scatter us!"—KATRINE BLACKINTON, *Blackinton, Mass.*

Northern Shrike Visits a Feeding-shelf

I have a bird feeding-shelf just outside my window, attached to the window sill, where Downy Woodpeckers, Chickadees, and Nuthatches are daily visitants. Yesterday (Dec. 12, 1917) I noticed an excitement among my Canaries which were on a table just inside the window. Upon investigation I discovered a Northern Shrike trying to get through the window, evidently determined to make a dinner of one of my birds. I stood by the window and watched him for nearly five minutes—within 3 feet. After making persistent efforts without success, he perched on the feeding-shelf, cocking his head on one side and the other, turning himself about as much as to say, "Look at me if you want to, I will bear inspection" when, suddenly as if in disgust, he flew away.—MRS. CLARK PIERCE, *Putnam, Conn.*

Observations on a Food-Shelf

The shelf measures 3 by 2 feet, is 2½ feet from the ground, 8 feet from a corner of the house formed by my study and an enclosed porch (into whose open door many a bird flies hastily, only to be examined by me at leisure), and is 30 feet from a

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balsam hedge (partly dead). From the windows of study or porch I have seen exactly seventy different species, a number which would be slightly larger if I could have differentiated the Ducks that have flown by overhead. Thirty-four have eaten from the shelf, with an additional seven which have either eaten from the crumbs that fell from this rich birds' table or have bathed in or drunk from the bath placed halfway between the shelf and the hedge.

One of the curious things about such a shelf (after three years' observation) is the frequency with which one species is seen one season and the scarcity or absence of it in the same season of the succeeding year. In the winter of 1916–17 a pair of Cardinals never missed a day (after the first week when the male tested the food alone before allowing his more sober-colored mate to eat thereof) from January 22 to March 21. In a similar fashion, the little Red-breasted Nuthatch ('Mouse-bird' we call him in our household, so much does he resemble that animal as he runs over the shelf) was an occasional visitor in 1915–16, and unintermittently the next year from November 22 to May 3. But neither of these has been seen at all during the last winter (though at least four pairs of Cardinals have wintered in the village). The Chickadees were constant friends the first two years, but this year they stayed with me a scant week in December. The Evening Grosbeaks can never be depended on, except to avoid the shelf itself, though profiting by what falls from it and by the bath. Similar variations are recorded of the Hudsonian Chickadee, the Redpoll and the White-crowned Sparrow. The White-throated Sparrow, that companionable little minister with his small white necktie, is nearly as dependable as the calendar.

In the early summer the variations depend on what is nesting in the neighborhood, and one season I can see on the shelf what the next year I will look for in vain. This was noticeably true of the Red-headed Woodpecker. My shelf has furnished nothing more comical than a mottled young of this species, peering over the edge as it clings to the side; nor has my camera caught anything more pleasing than the same young being fed, unless it is a whole family of Bronzed Grackles being fed in turn. The Catbird, the Thrasher (whom I could stroke on the nest), the House Wren, the Hairy Woodpecker (how unapproachable compared with his replica in miniature, the friendly Downy, friendly the year round), the Mourning Dove, the Rose-breasted Grosbeak and the Wood Thrush, are among those whose nests, being near, have been regular visitors to the shelf one year and entirely unseen the next year.

The early days of May see the bushes and trees alive with Warblers (nineteen of them, which is nearly equivalent to seeing thirty-eight, so different are the two sexes, in color at least), and yet only five have taken a meal at my restaurant: the Black-throated Blue, the Black-throated Green, the Myrtle, the Magnolia, and the Redstart (the latter most frequently). That is not as long a list as the Sparrows, and the difference is due, of course, to the difference in food enjoyed by the different families. The Finches delight in the sunflower seed, millet, hemp, and suet which are the staple articles of food I provide, with side-dishes of nuts, bread, meat, and the like. And, oh, if only the Flickers would grace the table instead of limiting their attentions to probing my lawn, nesting in my trees, and tapping on my roof. And why did it take the Robins, nesting, several of them, within 50 feet of the lilac tree against which the shelf is attached, a summer and a half to care, or dare, to eat of the delectable suet? On the other hand, why should the Cowbirds come in from the fields, a mile or more away, to spend so much time eating millet in the center of a city-like village? Is the lazy habit seen in its egg-laying spreading to its eating habits? These are questions I cannot answer, but their very mystery makes the presence of the shelf an unfailing delight.

But I must pass on to telling a few facts, curious or otherwise, concerning my

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feathered friends attracted to the neighborhood of my windows. And, most curious of all, to me, is the frequency with which Jay feeds Jay Why, in the dead of winter, or early in the spring (April 7 and 17, to be exact in two cases), should one Jay give another Jay a sunflower seed, the latter being apparently as well able to help himself (or herself) from the table as the former? Or why should one fly off to a lower branch in the hedge to be promptly approached, as if by prearrangement, by another to which he gives some morsel taken from the shelf? I cannot tell; I only know it is done. Sometimes the recipient immediately eats the tidbit; sometimes it takes it between its feet to crack it open. And, again, when the camera has caught from three to five Jays feeding together, why there should be times when there seem to be two laws, well-observed: "One at a time, please," and "The line forms on this side?" That is, one Jay feeds for from thirty to forty seconds and then flies off; immediately it is succeeded by a second that has been perched just above the shelf; when this one has finished a third comes down and takes its place; and this may go on for as long as twenty minutes—a veritable bread-line. That other birds should keep off when the Jays are feeding is not to be wondered at; and yet it is not a universal rule—the Jays do not seem always to inspire terror. One summer day a Jay hastily left its bath when a Robin came to drink; one May 23 a single female Rose-breasted Grosbeak successfully kept three Jays (apparently not young ones) from coming on to the shelf, and her belligerent spirit continued when a male and female of her own species later appeared; but she soon relented and the three fed in peace together. For June 4 my journal records: "Male Cowbird successfully and repeatedly drives off, and keeps off, Jay from shelf; then, proud of his powers, he also drives off a male Rose-breasted Grosbeak." The Doves proved equally successful in keeping the Jays away, and the young ones, in July, even followed their parents' example. (What a difference between a family of noisy, crying, whining Jays, looking too old to be fed, and a family of silent Doves, looking too young to feed themselves!) To revert to the Jays, I find that the Grackles are not afraid of them at any time, and that the Jays prefer to vacate when a Grackle appears. In fact, most birds leave the shelf when the metallic-headed, evil-eyed Blackbirds come to eat, save the Cowbird, to whom color resemblance may perchance allow an *entree*. And the White-breasted Nuthatch, who almost runs between their legs in his clumsy little way of trying to walk horizontally after ceaselessly running vertically, up or down, is unafraid in the presence of these swarthy and larger birds. And shall I ever forget the comical expression on the face of a Nuthatch which flew on to the shelf when a Junco was feeding. The *hyemalis* promptly dropped to a lower branch, and the little Nuthatch turned and looked at him, as if to say, "You were not afraid of *me*, were you?" and then went about his business of eating.

Some time in 1915 a young Grackle appeared one day (when the shelf was at my window) with a sore foot. A little later a second one appeared with the same affliction. Later in the summer one of them had entirely lost the foot; the other seemed unaltered, and the foot seemed 'withered' and was never used. They were both frequent feeders until November. In 1916 the one with the 'withered' foot returned and was here all summer. It kept constantly by itself, and in October (after I returned from a month's absence) I wrote of it: "It has grown quite white on the shoulders and upper back, and looks like a patriarch." This year I have not seen it.

And so one could go on almost endlessly. What a red-letter day when two sprightly little Ruby-crowned Kinglets (whose song had been so often heard earlier) decided to try my restaurant. What a banisher of spring-fever the sight and sound of Towhee and Fox Sparrow scratching among the dead leaves. What music to the ears the first-heard *Peabody* song of the White-throat, even though when first heard it is never completed. How unusual to see a Downy suddenly leave the suet on the tree-

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trunk to catch a passing insect in a veritable flycatching method. How interesting (not monotonous!) the Brown Creeper, nearly as silent as the Waxwing—a modesty in feathers. How can one be annoyed when he looks out and sees the hulk of a gray squirrel squatted on the shelf, or the English Sparrows that my bullets have missed eating food not set out for them; and yet it is because of what they displace that one does become angry, and must be rid of them in order to enjoy one of God's greatest gifts to men: birds around the house, useful, beautiful, companionable.—GEORGE ROBERTS, JR., *Lake Forest, Ill.*

Snowy Owl in Iowa

On December 12, 1917, during a typical Iowa blizzard, I chanced to look upward and just above the chimney-tops, seemingly born out of the throes of the storm, I saw a great white bird with a wing-expanse of about 3 feet. Later, during Christmas week, a record of another Snowy Owl was telephoned me from a farm some 12 miles east of Osage.—F. MAY TUTTLE, *Osage, Iowa.*

American Egret in Pennsylvania

BIRD-LORE readers will be interested to know that the writer had the good fortune of identifying an American Egret on July 23, 1916, at Blue Marsh, Berks County, Pa. (about 7 miles from Reading, Pa.). The Egret was first observed in flight, coming stoically winging along with its characteristic Heron-like flight. The sun being propitious, I had an admirable opportunity to identify the bird for an American Egret—with its yellow bill, black legs, and white plumage.

I also wish to report that a friend and the writer identified eighty species of birds on May 19, 1917, at the same Blue Marsh (from Sinking Springs to Blue Marsh and return, 7 to 8 miles). Such a list, as you may suppose, was the making of an interesting day! (Will be delighted to furnish the list if it can be of any use.)

And again may I report that a Black-crowned Night Heron colony is situated near Bridgeport, Pa., possibly the one referred to as being at Red Hill in the July-August, 1917, BIRD-LORE. The birds had a very successful season, and there are sixty-five nests, with as many pairs breeding, by a conservative count.—CONRAD K. ROLAND, *Norristown, Pa.*

Bird-banding

As a part of certain investigations now being carried on by the Department of Biology of the Western Illinois State Normal School, at Macomb, Ill., 250 young birds were marked during the past summer. A small, white celluloid ring was placed upon the right leg of each bird. Most of the birds are Robins, but several other migratory species are included in the list. All were reared upon, or within one block of the campus. It is hoped that some data concerning the movements and habits of the young birds after leaving the nest and during the next year may be obtained. If anyone who observes a bird marked as indicated above will let us know, it will be very helpful to us. Address any communications to C. W. HUDELSON, *Macomb, Ill.*

[Certain kinds of valuable and interesting data (relative to age and migration for instance) can best be obtained by marking individual birds. The American Bird-Banding Association, Howard H. Cleaves, Secretary, Public Museum, New Brighton, N. Y., issues aluminum bands suitable for placing on the legs of wild birds. Each band bears a serial number, with request that in case of recovery, the American Museum of Natural History, New York City, be notified. A record of each band placed is kept by the Association in card-catalogue form, and can be referred to if a band is recovered. It is expressly stated that under no circumstances should a bird be killed for the purpose of recovering a band, but a certain number of bands are recovered from birds killed by accident, etc. If you find a dead bird in the fields, look at its legs. It may be the bearer of a band which will establish some valuable

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scientific fact. We understand that Mr. Cleaves is at present preparing a report of the work of the Bird-Banding Association which will present much interesting data already obtained by bird-banding in America.—J. T. N.]

THE SEASON

X. August 15 to October 15, 1918

BOSTON REGION.—The fine summer days of late August passed with little noteworthy to the general observer. The fall rains began in early September, storm following storm, with dull weather between for much of the month. The first heavy frost came September 11, but otherwise the month was not unusually cold. In distinct contrast have been the many clear, cold days, with occasional frosts, of late September and early October.

The gradual withdrawal of the summering birds through August and early September, and the apparent absence of migrants from the north may have contributed to cause the seeming great dearth of birds throughout most of the latter month. As a means for determining the approximate time of departure of the local Robins and Bronzed Grackles, the disappearance of those that summer on the Public Garden and Common in the heart of Boston is important. A number of pairs of each species live constantly on these green oases during the summer, raising their young in the midst of the city noise. Their numbers gradually dwindle in late summer, but a few individuals of each species were seen up to September 16, familiarly hopping or walking about on the grass, sometimes accompanied by full-grown young. It was at about this same time that a Robin-roost, previously noticed at Lexington, was abandoned, though up to the end of August it had become the nightly resort of nearly a thousand birds. The recrudescence of song in several species before they leave for the south is a pleasant reminder of springtime. A last Baltimore Oriole was heard bugling August 31 at Cambridge. On September 1, a Warbling Vireo sang gaily from the village elms at Lexington and was heard by another observer a few days later. A Yellow-throated Vireo was heard in full song September 12, near the same place. Both species have been rare with us the last two years, a result, in part, perhaps, of the thorough spraying of orchard and shade trees to destroy the insect pests or benefactors. The old elms about Boston have particularly suffered of late years so that the few still remaining in Cambridge have long since ceased to attract the Warbling Vireo.

On September 15, two Myrtle Warblers were seen at Lexington, feeding in the red cedars at the edge of a pine wood, the first northern migrants to be noticed. It was not, however, until September 27 that migrants appeared with a rush, when, on the wings of clear weather following a succession of rainy or inclement days, Myrtle Warblers, Black-poll Warblers, Juncos, and White-throated Sparrows, and a number of Yellow-bellied Sapsuckers appeared suddenly, and with them a few Red-breasted Nuthatches, a bird of irregular appearance here. In the first half of October, the two species of Warblers just noted have swarmed over the country, every birch thicket having its quota of birds. Juncos abounded in the weed-fields and by the roadsides. Bluebirds have been markedly common, their notes being constantly in the air, as small flocks passed over in the early mornings. In feeding they haunt the pastures and gather with Chipping Sparrows and Myrtle Warblers about the open brooks and rills. Yellow Palm Warblers in small numbers have at times accompanied them. The first one seen was on October 2, with a flock of Bluebirds, Chippies, and Myrtle Warblers. Like the last species, it was seen feeding on the smooth, brownish caterpillar com-

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mon among grass and weeds at this season. A second bird was seen October 12. Brown Creepers were seen on October 2.

The sunny days of early October seem to have favored the late stay of several birds. A Nighthawk was seen at Lexington on October 5, and a second reported the following evening, in characteristic flight over a meadow. Phœbes were in evidence at least till the second of the month. A belated Great-crested Flycatcher was found on the morning of the 12th, and was watched for half an hour as he busily caught flying insects from a perch in the topmost twigs of a maple. A few Sharp-shinned Hawks have passed through, taking toll of the migrating hosts the last few weeks. Song and Savannah Sparrows swarm together on the edge of weed-fields, Titlarks in small flocks have lately appeared in plowed grounds, and a few Rusty Blackbirds have been seen. Altogether, the first half of October has fully redeemed the poverty of September in its hosts of migrating birds.—GLOVER M. ALLEN, *Boston, Mass.*

NEW YORK REGION.—Except for a short hot period in August, the summer was, on the whole, a cool one, and signs of autumn appeared at about the customary dates. On Long Island, the Black Tern, generally present in late summer, were very late in putting in an appearance, and the birds were there a comparatively short time, although one, seen on September 22 (at Mastic), is later than they generally remain with us. The Red-breasted Nuthatch almost completely absent last year, has been present in fair numbers, a single bird recorded from Long Island on September 2, and a flight of them reported from various points by various observers in Connecticut, New York, and New Jersey the end of September. The White-throated Sparrow, in the end of September, was somewhat more common and more generally distributed than usual at this time. The southbound flight of small arboreal birds, especially Warblers, was less scant than a year previous, the usually abundant Blackpoll Warbler being fairly numerous (in October), and the Magnolia apparently scarcest of those which should have been common. The Myrtle Warbler has arrived generally and is common This species was absent from its usual winter haunts the latter part of last winter, and was everywhere unusually scarce in the spring.—JOHN T. NICHOLS, *New York, N. Y.*

PHILADELPHIA REGION.—August has brought the hottest day ever recorded in the history of the local weather bureau, when the thermometer soared to 106 degrees (August 7). At this time the temperature averaged from 10 to 19 degrees above normal for about a week. Such heat had a decided effect on the birds, scarcely a note of any kind being heard, even English Sparrows being much less noisy than is their habit. Toward the end of the month cool days prevailed, and some few migrants were noted. However, the first perceptible Warbler movement was not observed till September 5. From that date, the Warblers were present in their usual numbers, the scarcity this spring having no apparent effect on the numbers this fall, which would seem to indicate that the birds were not as scarce this spring as they were reported, or that the breeding-season was very favorable for the increase of this family of birds.

Herring Gulls were first noted September 25. Red-headed Woodpeckers and Goldfinches were somewhat more numerous than usual the latter part of September.

It might not be out of place to mention that there is a very apparent increase this fall in unlawful shooting in this region. I have not only observed a good deal of this myself but several people have told me the same thing. I am glad to say that our local game-warden, Charles Folker, is very much alive and has already apprehended a number of these indiscriminating and lawless shooters.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—The city of Washington, though situated in the valley of the Potomac River, is apparently off

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the main north and south route of bird-migration, which lies considerably nearer the Atlantic coast. Thus we get here only, as it were, the overflow traffic from the main highway. As a consequence, during August and September, the vicinity of Washington is not a very favorable place for bird-observation.

During these two months in the present year there have been three definite migration waves: one about September 1, another about the middle of September, and still another during the last week of the same month. These waves brought a number of birds down from the north earlier than common, yet no earliest records were broken. The Lesser Yellow legs appeared on August 24, three days ahead of their average date of arrival; the Pectoral Sandpiper, on September 1 (average date of first appearance, September 5); the Slate-colored Junco, on September 28 (average, October 8); the Myrtle Warbler, September 28 (average, October 7); the Black-poll Warbler, September 14 (average, September 24); the Connecticut Warbler, September 14 (average, September 23). The Red-breasted Nuthatch came on August 31, nearly a month in advance of its time, which is September 24; and it was fairly common during the month of September, which is welcome information, as it was almost wholly absent during last fall and last winter.

The mild, pleasant weather of September evidently induced some species to overstay their allotted time. The Baltimore Oriole, the latest previous date of which was August 26, 1887, was observed by Raymond W. Moore on September 7; the Purple Martin remained until September 20, its latest previous date being September 14, 1889; and the Olive-sided Flycatcher was observed by L. D. Miner and Raymond W. Moore on September 14, the only other autumn record being an individual noted in September, 1881. Furthermore, the American Redstart remained until September 29, although ordinarily it departs about the 19th of this month; and the Green Heron stayed until September 28, whereas its average date of departure is August 27.

With the migration wave of the middle of September came a large flight of American Robins, and this species was very abundant in the city on September 14. On September 22 Miss M. T. Cooke observed a flock of about a thousand Broad-winged Hawks, and another of some two hundred. These birds were driving in a southerly direction at a great altitude over the city, and apparently made part of the southward migration of the species. The Pied-billed Grebe first appeared on September 24, and since then has been uncommonly numerous for this season of the year. The Black Tern, first observed on August 17 at Chesapeake Beach, by Dr. A. K. Fisher, has likewise been present on the larger streams near Washington in unusual numbers during the latter half of August and most of September. The American Egret, which has been rare of late about Washington, was seen on the Anacostia River on September 1 by Raymond W. Moore, but only three individuals were noted.

An interesting incident was observed by the writer on September 14 in the wooded, hilly country along Scott's Run, near the Potomac River. A fine, adult Bald Eagle, sailing about majestically at a moderate height, was spied by a big Red-tailed Hawk, soaring at a much greater altitude. After circling about for a time over the Eagle, the Hawk suddenly closed its wings and plunged almost vertically, with incredible swiftness, directly at the Eagle, checking himself only when a short distance away. He then proceeded to chase the Eagle out of sight.

There were in the city, during August and September, the customary Purple Grackle roosts, but none of them seemed to be as well populated as usual. There were no large roosts of European Starlings observed, such as were noted last year. During the month of August, however, a few birds, never over seventy-five, roosted near the Purple Martins; they later disappeared from this vicinity, possibly taking up their abode elsewhere, as a few

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resorted to the Capitol grounds near the secondary Purple Martin roost. The Purple Martins returned this year in much greater numbers than in August of 1917, but they roosted in another place, as will be more fully described later in BIRD-LORE.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

MINNEAPOLIS REGION.—The weather during the last two weeks of August continued cooler than usual. Early in September heavy frosts began to appear in the northern part of the state, ice forming in Itasca Park on September 3, and freezing temperatures prevailing throughout the northern counties on the 10th. On September 12 the first frost occurred at Minneapolis, but it was light, and even the tenderest garden plants are still uninjured in this locality at the present date. In the middle of September, just before the opening of Duck-shooting, the southwestern part of the state experienced several sharp, frosty nights which, at Heron Lake, were supposed to account for the scarcity of local birds, especially Teal. During the third week of September, cold, raw days predominated all over the state, followed by beautiful, warm "Indian Summer" weather that has continued to the present time. Aside from a few local heavy downpours in August, there has been but little rain. Lakes, streams, and sloughs are exceptionally low, and the uplands dry and parched, which conditions have prepared the way for the widespread and terrible forest fires that are at present causing the greatest loss of life and property in the history of Minnesota. The devastated area extends over several large counties in the heart of the Canadian Zone, and everything in the path of the fires has been swept clean. In addition to the destruction of vegetation, the loss of animal life in such conflagrations must be enormous.

The crop of wild rice this year has been unusually large and luxuriant. Even in the almost dry sloughs it stands tall and dense and heavy with seed. It would seem as though this should have a beneficial effect on the vast numbers of birds, both aquatic and land, that prefer this to any other food. Unfortunately, it comes too late to save the farmers' crops from the devouring hordes of Blackbirds. The damage is wrought by these birds while the corn and grain are 'in the milk.'

The most interesting phase of bird-study in the fall is the return of the migrants. In this connection it is a perennial surprise to see how quickly many of the far northern breeding waders are back again at their old spring haunts. On August 24 a flock of eleven Least Sandpipers was seen feeding in company with many Lesser Yellow-legs on a mud-flat along the Minnesota River, not far from this city. On the 25th a couple of Baird's Sandpipers had joined them. These two birds kept much by themselves and did not seem to be in particularly good favor with the others. In general actions they resembled very closely the Least Sandpiper. Both ran quickly about, searching for their food by a rapid, vertical probing with the slender bill instead of picking it up in a leisurely fashion as did the larger species present. August 25 a single Green-winged Teal was seen on the mud-bar in company with a brood of ten or twelve Blue-wings. The former species is now a rare breeder in southern Minnesota, and, as a migrant, the bulk comes rather late.

A flock of twelve Horned Larks, old and young, and several single birds were seen near the city on September 2, this being worthy of note because this bird has been strangely scarce in this vicinity in recent years.

Late in August the usual miscellaneous assemblages of migrating and resident birds appeared in the woodlands, roving about, feeding and calling to one another as they drift hither and thither through the tree-tops. The composition of these groups is always a curious and fascinating study. Often they number several hundred individuals and thirty or forty species may be represented, ranging all the way from Woodpeckers to Kinglets. Young and old are alike present. Warblers, Vireos, and Flycatchers predominate. These loitering migrants are here closely

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associated for the time with such permanent residents as Nuthatches, Downy and Hairy Woodpeckers, Brown Creepers, Chickadees, and even an occasional Blue Jay. In the earlier collecting days of the writer, these heterogeneous autumn flocks were fruitful sources of many fall specimens. Tamarack swamps, growing as circular fringes of trees around central open areas, were favorite haunts, and as the birds went round and round it was an easy matter, by heading them off by quick movements to and fro across the open space, to become fully acquainted with the entire personnel and many a choice find in species or new plumage was the result. With the falling of the leaves in late September and early October these parties are broken up and the migrating portions pass on their way to their winter homes in the South.

In view of the limited numbers that were observed in this locality last spring, it was interesting to see the abundance of White-throated Sparrows, Juncos, Fox Sparrows, and Myrtle Warblers that passed here this fall. These irregularities in the seasonal representation of birds are rather puzzling problems.

A word in regard to the Ducks this fall. At the opening of the season in mid-September but very meager bags were secured at all points of the state, and it was the opinion of both hunters and guides that local Ducks were less numerous than usual. Just at this writing it is reported that the northern birds are coming down in considerable numbers but it is too early to report in regard to relative abundance.—THOS. S. ROBERTS, M D., *University of Minnesota, Minneapolis, Minn.*

OBERLIN REGION.—Purple Martins left the vicinity on the last day of August. Baltimore Orioles were in full song until the middle of September. Chimney Swifts left September 7, which is unusually early for them to go.

Olive-backed Thrushes arrived on September 8 in numbers. On October 7, the first Black-throated Green and Bay-breasted Warblers were noted, and, on October 14, the first Hermit Thrush, Myrtle Warbler and Slate-colored Junco. Red-breasted Nuthatches and White-throated Sparrows were first noted on September 29, but they probably arrived a few days earlier than that.

It has not been possible for the writer to keep careful note of the birds during the summer and autumn, but the general impression which he has gained is that the singing of most of the Sparrows and the Orioles has continued much later than usual, and that the departure of the insect-eating birds, notably the Swifts and Swallows, came much earlier than usual—which latter was the case last year.

Birds have been about as numerous as usual during the summer, and Robins and Bronzed Grackles have been so abundant that many hundred dollars worth of garden fruits and corn must be credited to their insatiable appetities. English Sparrows damaged the wheat to a less extent than usual.—LYNDS JONES, *Oberlin, Ohio.*

KANSAS CITY REGION.—The most notable event of the season was the finding of a nest of Blue Grosbeaks about a mile east of the southeast corner of the city. The nest was 10 to 12 feet from the ground, in a peach tree, and contained young. The owner of the orchard would not allow of a close inspection of the nest, but the bobbing heads of at least three young could be seen in open-mouthed clamor for food on each arrival of the female. The male sang almost continuously for nearly an hour, and came near the nest several times with food, but was too timid at our presence to feed the young. This bird, like the Bewick's Wren, is known to be extending its range northward in western Missouri, but this is the first authentic nesting record for the Kansas City region. It has been observed in this vicinity only twice previously.

As reported in previous notes from this district, the increase in Ducks has been very noticeable since the new law went into effect. Especially is this true of the species that formerly nested here. Fortunately, they are still able to find suitable nesting-

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sites in the Missouri Valley, in northwestern Missouri and eastern Kansas, where they may rear their young with some degree of security. It is reported from several points in this up river country that Blue-winged Teal and Wood Ducks have nested in numbers this season, and a few favorable reports have been received as to Mallards, Pintails, and Shovellers. It is regretted that no apparent increase in the Geese can be noted. R. P. Holland, of Atchison, reports that a pair of Canada Geese remained to breed near the Iowa line this summer, and that while the male was killed by some unknown farmer, there was evidence that the female brought off her brood of young. All this is very encouraging to the very few well-wishers of this law in this region.

The flocks of migrating Pelicans usually looked for on the Missouri River from September 13 to 25 did not appear until October 4, when the first of these majestic birds was seen making their way south, high overhead, like a string of glistening war-planes.

Several small, scattered flocks of Lincoln's Sparrows were seen on September 29, an unusually early date for these birds in this region, as they usually arrive near the middle of October.—HARRY HARRIS, *Kansas City, Mo.*

DENVER REGION.—The writer's new duties in the service do not take him entirely out of the Denver Region, but they have curtailed considerably his chances of noting bird-life since August 15.

The early impressions of the year, that some birds were not up to the normal in number, and also queer in distribution, has been confirmed during the past weeks. Thus, only one large flock of Bronzed Grackles was seen, to wit, on August 27, and, again, the writer was surprised to see a Hairy Woodpecker in his yard on August 24, a very rare occurrence for that date in this place. This period has shown in an interesting manner the difference in the visiting habits of two different species of Warblers, both of which breed not more than 20 miles away from Denver, in the higher foothills; thus, the Virginia Warbler appeared about my yard on August 26, and was last seen in the neighborhood on October 15, while the Macgillivray's Warbler was detected only on August 28 and 30.

On August 22 a brood of young Robins was noted, all barely able to fly, and plainly just out of the nest; this is a very late date for this species to finish the season's nesting work. Late in August, and early in September, several Goldfinches were seen, all having been what were called Mexican Goldfinches years ago, while at the same time the writer saw none of the Arkansas species, though they were common breeders earlier in the season. This observation is but one of a similar nature made in the past, and lends support to the suggestion made by E. R. Warren that this form is not with us early in the season, and probably is really a distinct species, not a form of the Arkansas Goldfinch. I do not see the previously called Mexican Goldfinch here until late in the summer or early in the fall, and I, too, feel dubious as to its being a form of the Arkansas Goldfinch.

On September 9, many large flocks of Robins were seen flying southward; this could not have been due to severe weather driving them south, for the season here has been mild and exceedingly pleasant.

The writer has seen, this fall, more Barn Swallows, often in considerable flocks, than in several years past.

Our winter birds have begun to arrive, the Grey-headed Junco getting here on September 13, and today (October 15) some Tree Sparrows were seen in the suburbs.—W. H. BERGTOLD, *Denver, Col.*

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Book News and Reviews

JUNGLE PEACE. By WILLIAM BEEBE. Henry Holt & Co., New York. 1918. 8vo. 297 pages; 16 full-page plates from photographs.

This book is a picture. Its theme is the beauty of the South American jungle as seen by the philosopher-naturalist. It is not a picture of birds, but there are birds in the picture. Of the eleven chapters which comprise it, the central one of seventeen pages gives a vivid, careful description of 'Hoatzins at Home.'

In the author's words, "The hoatzin is probably the most remarkable and interesting bird living on the earth today." The colony of Hoatzins studied was over the edge of a river in "an almost solid line of bunduri pimpler or thorn tree. This was the real home of the birds, and this plant forms the background whenever the hoatzin comes to mind." The methods of the reptile-like young of this bird using the clawed digits at the bend of the wing in climbing, and also of diving into the water beneath to escape capture, are described in detail.

The student of bird-life in temperate climes will find in the many allusions to birds of the tropics the tang of the unfamiliar, yet much that parallels and gives fresh meaning to things which he knows well. We are all acquainted with the heterogeneous association of Chickadee, Downy, Nuthatch, Kinglet, etc., which drift through the winter woodland, and read with interest (page 249) "Little assemblages of flycatchers, callistes, tanagers, antbirds, manakins, woodhewers, and woodpeckers are drawn together by some intangible but very social instinct. Day after day they unite in these fragile fraternities which drift along, gleaning from leaves, flowers, branches, trunks, or ground, each bird according to its structure and way of life. They are so held together by an intangible gregarious instinct that day after day the same heterogeneous flock may be observed, identifiable by peculiarities of one or several of its members. The only recognizable bond is vocal—a constant low calling; half-unconscious, absent-minded little signals which keep the members in touch with one another, spurring on the laggards, retarding the overswift."

'Jungle Peace' is delightful reading in part or throughout. The thread which binds it together is subtle, perhaps the author s personality, or perhaps the many-sided spirit of the jungle itself. We are told that most of the chapters have appeared independently in the *Atlantic Monthly*, and that the one on the Hoatzins is adapted from a publication of the New York Zoölogical Society. In any event, they form an harmonious whole from the initial ones which carry the reader southward into the tropics, across the Sargasso Sea and through the West Indies, to the final 'Jungle Night,' which leaves him in moonlight stillness of the jungle with the weird cry of the big goatsucker-like poor-me-one ringing in his ears. Looked at as a picture, the light and shade values are the elements best executed.—J. T. N.

The Ornithological Magazines

THE AUK.—In the October issue we may read a valuable contribution on 'The Nesting Grounds and Nesting Habits of the Spoon-billed Sandpiper' by Joseph Dixon, who shows us a half-tone of the country and of the eggs and nest of this little-known bird, as well as diagrams of its nuptial flight and a sketch map of northeastern Siberia. This very rare Sandpiper, with its peculiar, spade-shaped bill, is accidental on the Alaskan coast, but it has been taken in migration as far south as Rangoon, Burma. In contrast to this study of a rare bird in the far north, we have observations made on the common Crow in Massachusetts by Dr. Chas. W. Townsend, under the title, 'A Winter

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Crow Roost.' Let no one despair of opportunity, for if one is denied Arctic exploration, one may find something new about home, and Dr. Townsend shows us what may be learned of the humble Crow when he gathers nightly by the thousand in a "river of black wings." We learn that "Crows take no interest in food conservation" and eject pellets like the Owls, rich in nutriment when berries are plentiful in the fall, but consisting only of skins and husks when food becomes scarce in the winter. Arthur T. Wayne, with 'Some Additions and Other Records New to the Ornithology of North Carolina,' also shows how much may be learned in a limited area by constant and careful observation.

Chauncey J. Hawkins reviews at great length some of the pros and cons in 'Sexual Selection and Bird-Song,' adding some theories of his own which, although they are not altogether convincing, are, superficially at least, as plausible as some others that have been advanced in the past.

Prof. Hubert L. Clark discusses 'The Pterylosis of the Wild Pigeon' based on material in the Agassiz Museum which is fortunate in possessing alcoholic specimens of an extinct bird.

In a 'List of Birds Collected on the Harvard Peruvian Expedition of 1916' are included a number of new forms. A sixth paper of 'Notes on North American Birds' by H. C. Oberholser briefly discusses and summarily settles the status of the Belted Kingfishers, the Barn Owls, the Brown Creepers, the Redpolls, the Myrtle Warblers, and the Carolina Chickadee. He also, in another extensive paper, resuscitates 'The Subspecies of *Larus hyperboreus*, Gunnerus' (i. e. the Point Barrow Gull), which the present reviewer had the temerity to lay at rest a dozen years ago. It is merely a question of opinion as to how much difference in size we care to recognize!

The departments of Notes and of Reviews are filled with items showing the interest of numerous observers and workers in many channels of activity.—J. D.

THE CONDOR.—The contents of the September number of 'The Condor' are unusually varied and interesting. Bradbury's 'Notes on the Nesting of the Mountain Plover,' illustrated with eight excellent photographs, contains an account of the finding of six sets of eggs of this bird, in May, 1917, on the open rolling prairie about 20 miles east of Denver, Col. A brief autobiography of Frank Stephens, accompanied by a portrait, will be read with much interest by the many friends of this veteran field naturalist. This article, the first of "a series of autobiographies of the older ornithologists of the West," will, we hope, be followed by others at frequent intervals. A subject somewhat different from those based on ordinary field experiences is discussed in Willard's 'Evidence That Many Birds Remain Mated for Life.' The evidence presented concerning Flycatchers, Hummingbirds, Warblers, Woodpeckers, Doves, and other species nesting in southern Arizona, while strongly presumptive, suggests that more conclusive data for certain species might be secured by banding birds and observing them from year to year. The fourth chapter of Mrs. Bailey's 'Return to the Dakota Lake Region' is devoted to a most interesting description of the habits of 'the Grebe with the Silvery Throat,' commonly known as the Western Grebe.

Warburton contributes a suggestive article on 'Some Oceanic Birds from off the Coast of Washington and Vancouver Island.' Auklets, Albatrosses, Murres, Puffins, Shearwaters, Skuas and Fork-tailed Petrels were observed during a week spent on a halibut fishing-launch from June 26 to July 3, 1917. If such means of transportation were utilized more frequently, a valuable series of observations on the sea-birds of the fishing-banks could readily be collected.

Two rather more technical papers are: Oberholser's description of a new subspecies of Blue-throated Hummingbird based on a specimen from the Chiricahui Mountains, Ariz.; and Taverner's list of forty species of 'Summer Birds of Alert Bay, British Columbia.'—T. S. P.

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Bird-Lore

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Bird-Lore's Motto:
A Bird in the Bush Is Worth Two in the Hand

WITH the publication of this number, BIRD-LORE completes its twentieth year. While this volume, like the nineteen it follows, is the lineal descendant of its immediate predecessor, each one has given birth to its successor without loss to itself, and BIRD-LORE at two years remains as tangible an entity as BIRD-LORE at twenty now becomes. So we may perhaps be permitted to express the satisfaction with which our eyes rest upon the row of volumes that mark the years of BIRD-LORE'S life, with their thousands of pages of text, their several thousands of photographs, and their hundreds of colored plates. They form not only a permanent contribution to our knowledge of bird-life, but they also contain a detailed history of how our birds have gradually won their proper place in the hearts of the people and have finally been accorded their rights as citizens. The twenty years of BIRD-LORE'S existence almost cover the entire second of the two periods which mark the actual awakening of the country to a realization of the value of its assets in bird-life.

The first of these periods was inaugurated by the formation of the American Ornithologists' Union in 1884. It included also the organization of the first Audubon Society, in effect a branch of the Union, and lasted until 1895. Then began the second movement, which, under the inspiring leadership of William Dutcher, developed into the National Association of Audubon Societies.

It was the A. O. U., with its direct offshoot, the Biological Survey, that laid the foundation on which this structure could be raised; it was the Audubon Society which brought a knowledge of birds to the people; it was the response of the people that made bird protection possible.

With the Federal Migratory Bird Law an accomplished fact, the National Association is now relieved of the necessity of watching the legislation of every state and of combating the numberless attempts to legalize the destruction of birds for private gain. It can, therefore, devote its efforts largely to the most profitable field which it has before it—the development of its work with children. Prior to the war, the growth of the Association's coöperation with schools was advancing at a phenomenal rate, but with the establishment of the Junior Red Cross the attention of the children has naturally and properly been focused on various phases of war-relief work.

The Red Cross, however, reminds teachers, through its 'Teachers' Manual,' of the importance of studying conservation problems and, in this connection, it commends the efforts of the National Association to place a knowledge of the value of birds to man within reach of every child. Even before the end of the war, therefore, we may expect to see our work in the schools develop at its former rapid rate of increase, which means that the limit of its growth will be marked only by the extent of the resources of the National Association.

The influence of the work itself cannot be overestimated. The school is often the most direct and effective road to the home. Nesting-boxes and feeding-stands made in the schools find their natural resting-places in home-gardens, and with them come all the delightful possibilities of making friends with the birds.

Here and there will flame up the 'divine spark' which is the priceless heritage of the born ornithologist, but everywhere we may hope to see that intimacy with our more familiar birds which makes them the most potent bonds between man and nature.

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The Audubon Societies

SCHOOL DEPARTMENT

Edited by ALICE HALL WALTER

Address all communications relative to the work of this department to the Editor, 67 Oriole Avenue, Providence, R. I.

CHRISTMASTIDE REFLECTIONS

Most of the harvest of the war-gardens upon which I have looked through shortening autumn days is now safely under cover, but here and there a frost-nipped stick or crackling stalk that has escaped the brush-heap fire of the empty lot in which the gardens were made, attracts a pair of persevering Jays or a flock of acquisitive English Sparrows. One lone cornstalk recalls to mind the lines of the poet Lanier, to whom every swaying bough or growing blade, every glow of color in sky or sea or on flashing wing, conveyed Nature's truth in measures of his universal language—music.

"I wander to the zigzag-cornered fence
Where sassafras, intrenched in brambles dense,
Contests with solid vehemence
The march of culture, setting limb and thorn
As pikes against the army of the corn.

. . . . . .

"Look, out of line one tall corn-captain stands
Advanced beyond the foremost of his bands,
And waves his blades upon the very edge
And hottest thicket of the battling hedge."

—From "Corn," by Sidney Lanier.

On the walls of the early home of a more familiar American poet are these words, written by Stephen Longfellow in 1824 to his son, Henry, who was then in college: "I am happy to observe that my ambition has never been to accumulate wealth for my children, but to cultivate their minds in the best possible manner and to imbue them with correct moral, political and religious principles, believing that a person thus educated will with proper diligence be certain of attaining all the wealth which is necessary to happiness."

To the stranger looking, as the poet so often did, out upon the narrow, walled-in garden of this simply furnished home, comes back the glow of contact, even through the medium of these treasured relics of his past, which such a lover of nature felt as he watched the falling leaf or mused upon the misting rain. Seen through the poet's eyes, how clearly is the truth revealed!

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NEW STANDARDS IN A NEW ERA

In an illuminating and, as it seems, prophetic address given by President emeritus Eliot of Harvard University, entitled "Certain Defects in American Education and the Remedies for Them" (later published as Teachers' Leaflet, No. 5, Bureau of Education), eleven points were frankly stated and discussed with reference to the betterment of our educational system, and particularly that part of it represented by the public schools.

Briefly, the defects noted were classified under eleven headings, of which the last three are: (9) NO MANUAL SKILL, the remedy for which is the development of "some kind of ocular and manual skill, which may be attained not alone through mechanical drawing and the elements of free-hand drawing, both of which are desirable in elementary and secondary schools, but also, the elements of chemistry, physics, and biology in an experimental and concrete manner, partly for the reasoning of these sciences, of course, but also for the training of the senses which comes through the proper study of them;" (10) LITTLE TRAINING OF THE SENSES, again the remedy for which lies in systematic training, and (11), NO HABITUAL ACCURACY OF OBSERVATION AND STATEMENT, for which what better training could be offered than nature-study? Indeed, the last three defects enumerated find much of their antidote in nature-study.

President Eliot observes that "it is the men who have learned, probably out of school, to see and hear correctly, and to reason cautiously from facts observed, that carry on the great industries of the country and make possible great transportation systems and international commerce," and although we may take some exception to this opinion, it is nevertheless based upon a wide and impartial estimate of actual conditions.

Inspected thus critically, our school-systems, admirable as they seem in organization and equipment, must be subjected to a very searching investigation, if they are to fulfil the needs of a new era. It would be well if in every school might be posted, for the benefit of each pupil, these words of President Eliot: "Every boy and girl in school should learn by experience how hard it is to repeat accurately one short sentence just listened to, to describe correctly the colors on a bird, the shape of a leaf or the design on a nickel," and for each teacher "every child should have had during its school-life innumerable lessons in mental truth-seeking and truth-telling."

The pity is that we do not recognize the unlimited opportunity in bird- and nature-study for this much-to-be-desired training, and enter into this inheritance so long withheld from us in its entirety.

Not only our public schools, but normal schools, colleges, and universities need awakening and are rapidly coming to it through the exigencies of the war. To-day between five and six hundred of our higher institutions of learning are in affiliation with the War Department, having in charge the Students' Army Training Corps. Time-honored curriculums are being completely revamped,

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in the interests of overcoming some of the defects emphasized above. If our colleges and universities can so willingly and rapidly meet the demand for a more practical and concrete training, why should not our public and normal schools follow their patriotic example? They are leading the way as President Eliot prophesied they must, and we may look for "a new sort of teacher and much new apparatus" also, thus "*broadening but not excluding book work.*" —A. H. W.

JUNIOR AUDUBON WORK

For Teachers and Pupils

Exercise XLII: Correlated with History, Geography, Physiology, and Conservation

"The Wild Turkey should have been the emblem of North America, and so thought Benjamin Franklin. The Turkey is the national bird, truly indigenous, and not found beyond the limits of that continent; he is the herald of the morning, and, around the log-house of the squatter, must convey associations similar to those produced by the crowing of the cock around the cottage of the European farmer. 'I was awakened,' says Bartram, 'in the morning early, by the cheering converse of the wild turkey cocks saluting each other from the sun-brightened tops of the lofty cypress and magnolia. They begin at early dawn, and continue till sunrise. The high forests ring with the noise of these social sentinels, the watchword being caught and repeated from one to another, for hundreds of miles around, insomuch that the whole country is, for an hour or more, in an universal shout, or in the poetry of Southey,

'On the top
Of yon magnolia, the loud Turkey's voice
Is heralding the dawn; from tree to tree
Extends the wakening watch-notes, far and wide,
'Till the whole woodlands echo with the cry.' "

—From The Naturalist's Library, Vol. III.

THE MEAT-SUPPLY OF THE WORLD

NOTE.—Referring to the preceding exercise, let emphasis again be placed upon the value to both teachers and pupils, of becoming familiar with the work and publications of the United States Department of Agriculture. As the public need for information and instruction becomes more urgent, not only with reference to the food-supply of the world, but also to much of the essential business of living, the Bureau of Education under the Department of the Interior, in coöperation with the United States Food Administration, has undertaken a series of "Lessons in Community and National Life," graded from the intermediate classes of the grammar school to the upper classes of the high school.

This fundamental subject of food involves a great deal of the business of the world, as well as matters pertaining to business organization, national standards, the origin and development of large industries, national institutions and methods and pro-

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cesses of government. In these Bulletins is a simple, clear presentation of facts which every American citizen and every future citizen of America should know. The Commissioner of Education at Washington, D. C., has charge of these Bulletins. They should be widely studied and discussed.

Those who have taken up the matter of the world's supply of cereals, such as wheat, for example, will have discovered how complex the subject is, whether viewed from the point of natural and cultivated varieties, distribution and demand from country to country, and by race to race, or the gigantic business mechanism which controls the production and trade-distribution of this practically world-wide essential of human diet.

A second important subject is the meat-supply of the world. It is true that many people, not vegetarians by habit, are learning to eat less meat and more vegetables, but meat has become so favored an article of diet that, generally speaking, it is an essential food. There are important substitutes for meat which we should learn to use, but so long as meat remains on our menus, it is well to study its history and use.

Familiar as we are with the appearance of cooked meat on the table, and of "cuts" of meat in the market, perhaps no one of us could correctly locate or describe the most notable meat-producing centers of the world or properly explain the origin of our present meat-supply. We have heard, perhaps, of the vast cattle-ranges and large ranches which a generation ago occupied the great plains of the United States; we may have pictured rather dimly in our minds the rich pampas-lands of South America or the far-straying flocks of Australia, but could any of us write down or mark on a map the places where beef, pork, and mutton are produced in large quantities? Could we name even a few of the different stocks of cattle, sheep, and hogs which furnish our meat-supply, or tell where they come from? When you see a cow, a lamb, or pig, does it occur to you that each has a history worth looking into, and not only a history with reference to your food-supply, but also a history in connection with animal creation and human civilization?

You may sometime have had on your table a thick, juicy steak which you heard described as a piece of "Texas beef." Could you have watched Columbus loading his frail ships for a second voyage to America in 1493, or, later, colonists starting for the newly discovered West Indies, you might have seen the ancestors of this so-called Texan stock being taken from the Old World to the New, where they spread partly in domesticated and partly in wild state, at last reaching the mainland, both north and south of the Isthmus of Panama. By 1525 this stock had reached Vera Cruz, Mexico, and thence doubtless found its way gradually into Texas. Travelers and settlers returning to the Old World, tradition tells us, carried the native Wild Turkey of North America to Spain, whence it probably became domesticated as far north as Great Britain, and was in later times retaken to America by colonists who very likely knew nothing of its origin. In 1836, Sir William Jardine, Baronet of Scotland, wrote: "The

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Turkey has now been domesticated in almost every civilized part of the known world, and it is probable that it will be sooner extirpated from the greater part of its native wilds than from the poultry-yards of the opulent and luxurious. Bonaparte observes, that it is now extremely rare, if, indeed, it exists at all, in the northern and eastern parts of the United States. In New England, it even appears to have been already destroyed one hundred and fifty years back. . . . We may anticipate a day, at no distant period, when the hunter will seek the Wild Turkey in vain."

It seems a long step from our common barnyard fowl to the jungles of India where some of its ancestors had their native haunts, or from the sociable grunting pig of our farms to the fierce wild boars of Europe and Asia. It is, perhaps, not quite so difficult a stretch of the mind to associate the quiet cattle and sheep of our pastures with the huge musk-oxen of the frigid north and the water-buffalo of the Philippines and East Indies, or with the graceful pronghorn of the Rocky Mountains, and even with the more familiar goat. One has only to study the origin and distribution of any domesticated animal to learn much of interest and value in the history of mankind. Whether other animals than those already domesticated might have been tamed to the service of man, we can only test by experiment. Those animals and birds which man has thus far trained to live under his care are the ones upon which we most depend for food. It will be useful in your nature-study work this coming year to read all you can about these food-producing creatures, and to write compositions describing their native haunts and nearest relatives, as exercises in English, geography, and history.

Many boys and girls nowadays are joining Pig Clubs or Poultry Clubs, to help themselves and others learn to properly conserve and increase these valuable sources of meat-supply. All that you can find out about pigs and poultry, for example, will add to the interest of your Club meetings and aid your own intelligence in selecting and breeding good strains or stocks. It might be stated as a rather important point that many of the failures of poultry-raisers and stock-owners are the result of lack of knowledge. If there were space to make this matter more emphatic by giving statistics and detailed illustrations, it would be delightful to go more deeply into the history, let us say, of a Jersey cow, a Shropshire sheep, or a common black pig and Plymouth Rock hen. But this you can do for yourself, if you will take the pains to ask your public librarian to assist you, or write to the U. S. Department of Agriculture at Washington. In any case, remember how much there is to be learned about LIVE ANIMALS before they become part of our marketable food-supply.

Considering now these same animals as a source of meat-supply, we may first lay stress on their value as food for man, as compared with the value of cereals, vegetables, fruits, or various other accepted articles of diet.

Meat is rich in protein and fat, but lacks carbohydrates, while cereals contain the latter and protein, but lack fat. In determining the value of dif-

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ferent kinds of food, other chemical ingredients, such as water, mineral matter, and refuse are tested before it can be known exactly how much fuel-value may be reckoned to each pound of a given food. This fuel-value is set down in terms of calories, a convenient method of getting at the relative fuel-value of such different kinds of food as we are accustomed to eat. In studying physiology you will learn about the organs of digestion, their proper use and the harmful results of their abuse, with reference to these foods.

Since the science of physiological chemistry has made it possible for us to know beyond any doubt what kinds of food are needed to make up a wholesome diet, and what kinds are not necessary, or are possibly harmful, and also, how much is needed of certain kinds of food to maintain health, it is extremely important that every boy and girl should learn something about these matters.

Just because we may like some kinds of food much better than others is not in itself a reason for eating them instead of other kinds, although one's taste is usually a fair indicator, in health, of desirable foods for the system. It is a good thing to be adaptable and to learn to eat a variety, so that if one thing fails, another may be substituted in its place.

When the supply of meat in England was cut down suddenly by circumstances attending the war, it was decided by the Food Administration Committee to find out who needed meat the most and then to make it possible for the scanty supply to be distributed where it would do the most good in producing human energy. It was found that "before the war, the consumption of meat in England was as follows:"

Meat consumed per week, per person:

Group I, artisans, mechanics, laborers	2 lbs.
Group II, lower middle class	2⅓ lbs.
Group III, middle class	3½ lbs.
Group IV, upper class	5¾ lbs.
Average consumption per person	2½ lbs.

Under Lord Rhonda's food-regulations, the meat-ration of all groups was cut to 1¼ LBS. PER WEEK PER PERSON, and in no case could anyone get more, except certain people in Group I, such as munition workers, who are known definitely to need a larger meat-ration.

When we recall that only 35 per cent of the food eaten in Great Britain is bread, while in France it is about 50 per cent and in some other countries on the continent 60 per cent, or even 70 per cent, we begin to realize what a remarkable change the English people made in their diet, and to realize that the small sacrifice we are called upon to make, in decreasing our accustomed ration of meat, is hardly to be compared with so radical a cut as that to which they agreed.

In finding out just how much a nation needs for food-supply, many factors enter in, which we are not in the habit of thinking about. For example, we are

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told that we must give up the highly fattened prize beef, mutton, and pork, which have made our markets famous, because the fodder or food of cattle, sheep, and hogs must be reckoned more carefully in relation to its use. Beyond a certain point in fattening stock for market, it is wasteful to feed so large a ration as is necessary to add still more fat to the animal, already sufficiently fattened for food-purposes.

Not only must we learn to cut down our ration of meat at need, but we must also learn to give up over-fattened meats and to take substitutes, as well as to add new kinds of meat to our present variety. In Peary's arctic bill-of-fare appear walrus and seal meat, which he describes as making a "healthy diet not relished by white men as much as by Eskimos"; musk-ox, reindeer, and polar bear meat, "all delicacies for any table;" harp and square-flipper seal meat, which is not as strong as the walrus and other seal meat; and among birds, a variety of northern species upon which human life depends at certain times for existence in latitudes where no cereal crops are known. Fish also enters into this arctic diet.

The possibilities of the prairie-dog, the muskrat (sold under the name of "marsh rabbit"), of horse-flesh, and even of the hippopotamus, are to-day made known to us. Some of the North American Indians found dog-meat wholesome, while we recall the birds'-nest soup of the Chinese made from the nest of a species of Swift, and the cultivated taste of the Boers in South Africa for Ostrich eggs. One Ostrich egg weighs from two to three pounds and is equivalent in quantity to two dozen hens' eggs. Daniel Lewis Noyes, writing about "New Meats for the Wartime Table" says that eggs of the Ostrich are being canned, without the shell of course, and shipped to London to be used as a substitute for hens' eggs.

This leads us to call attention to the possibilities of adding to our meat- and poultry-supply by proper means of rearing certain edible birds in domestication, in addition to the common forms of fowl now in use. Such artificial propagation calls for much skill and knowledge and is worthy the ambition of the careful student. At present, every boy and girl on a farm should at least learn to care successfully for a dozen or more hens, or for enough to supply home needs. Here in town, some people are producing their own egg- and poultry-supply by using the portable houses which shelter a dozen fowls. The results are remarkably good, and one looks with envy at the young woman whose daily record shows that from the middle of December to the first of September 2,316 eggs were produced from twenty-two hens, kept in a small chicken-house on the back of a narrow city lot.

By actual tests, boys and girls who have become active members of Poultry Clubs, as well as of Pig Clubs, have improved in so many ways that too much cannot be said in favor of these Clubs where they are conducted by an informed and responsible person.

In our study of the meat-supply of the world, there are still other points of great interest and value, namely, the investigation of diseases among cattle

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and poultry, and the inspection of meats for the market in relation to human welfare and health. If you will look in the Yearbook of the U. S. Department of Agriculture for 1915, and read the article entitled, "Animal Diseases and Our Food-Supply," you will find many facts desirable to know. The discovery of the carriers of malaria, yellow fever, and bubonic plague was led up to by investigations on cattle-tick fever, for instance, while the figures of annual loss from diseases of animals and poultry, with statistics of work already done in suppressing them or producing immunity to them, show what a great opportunity many a bright student of these common creatures may have, in adding to knowledge, economic resources, and human welfare. Begin now to study with a desire to find out the truth of the world about you in a practical, thorough manner; learn to eat properly a sufficient amount of wholesome food, and, above all, cultivate happiness in whatever you undertake. These three maxims of right living and right thinking will do much to assure you perfect health, contentment, and joyful anticipation of each coming day.—A. H. W.

SUGGESTIONS

1. Make a series of charts to represent the distributions of cereals. Have a wheat-chart, a corn-chart, a rye-chart, etc. Hang each one up in turn, with a picture of the growing crop, and pass around a bottle of the seed, showing what part or parts are used in making flour, meal, cereals, etc. Make this study a preparation for Bird and Arbor Day exercises incidentally.

2. What is a ruminant? an ungulate?

3. How many different animals can you name which are ruminants?

4. How many breeds of cattle can you name?

5. Where do Ayrshire and polled Angus cattle come from? What is each most useful for in our food-supply?

6. Describe Jersey and Guernsey cattle and give their history.

7. Which breeds of sheep have fine wool? Which are most used to produce mutton? Name some of the best-known breeds and tell something about the value of each one.

8. To what kinds of birds does the term poultry apply? Is poultry a meat, or a meat substitute? Look up the use of the term "meat."

9. Which is easiest to raise, turkeys, chickens, ducks or geese? What are guinea-fowl?

10. Look up the development of agriculture in Argentina. What was the original breed of cattle there? Why were Durham, Shorthorn, Hereford and other breeds introduced? How much wheat and corn are produced there?

11. How are cattle used in India? Did you ever see cows used in the harness? or trotting bullocks attached to wheeled carriages? Have the great famines of India affected the supply of cattle there?

12. Do you know of any cattle with humps on their backs? Where are such cattle found? What other kinds of animals are humped? Are they related to cattle?

13. How are cows cared for in Holland? What is much of their milk used for?

14. Look up the history of the pig in Servia, of poultry in France, sheep in Australia and of goats in Switzerland. (See "Encyclopedia Britannica.")

15. Do any birds protect or help protect cattle from the insects which annoy them and often cause disease?

16. How did the Cowbird get its name?

17. Learn something of the life-history of cattle-ticks, sheep-ticks, and of "blackhead" among poultry, especially among turkeys.

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18. Learn something about the regulations of our federal inspection of meat. What is good meat? bad meat? Be careful to define the latter correctly.

19. How much do you know about the artificial propagation of wild birds?

20. What is the National Association of Audubon Societies doing in this direction? Private game-preserve holders? The Government of this and other countries?

Get all the information you can at first hand through public libraries, and the federal bulletins already mentioned. Failing in these sources, the School Department will try to refer you to other sources.—A. H. W.

For and From Adult and Young Observers

ROBIN

Black back, wings, tail and head,
Has Mr. Robin, with breast of red.
His nest is in that little tree,
With Mrs. Robin and babies three.

If you want to see him, just remember,
From early April till 'round September,
He stays in the north and is so gay,
Caring for his wife and family.

When the babies learn to fly
Way up into the bright blue sky,
Then to the south the Robins go
To get away from the ice and snow.

—DONALD H. ROBINSON, *Audubon School, Scranton, Pa.*

WORD FROM SCRANTON, PA.

Being a teacher in Audubon School and an organizer of Junior Bird Clubs in Scranton, I am very much interested in the School Department of BIRD-LORE.

Our Club in Audubon School consists of over sixty members, and all are very enthusiastic. We have made bird-boxes and placed them in Nay Aug Park. We have a feeding-station there, and each club member takes a turn in placing food there during the winter months. Our last meeting was held in the park, and more than a hundred attended. We launched a floating bird-bath on Lake Everhart. Several boys gave bird-calls. The older pupils were given the privilege of joining the Scranton Bird Club, which is for adults.—HELEN J. HAY, *Scranton, Pa.*

[The Robin is so much beloved by the majority of observers, both young and old, that the verses sent by this teacher from one of her pupils will give pleasure to other readers of BIRD-LORE.

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Once more President Eliot's words should be recalled with reference to the difficulty of describing the colors of a bird's plumage. As a test, see how many of us, teachers as well as pupils, can describe with some degree of accuracy the colors and markings of the Robin without consulting a book or picture. The *School Department* would welcome a picture of the floating bird-bath as well as one of the Club who launched it.—A. H. W.

HOW WE STUDY BIRDS IN OUR ROOM

The way we study birds in our room is very interesting. Last fall we made bird-books of colored paper. At the top we printed the word "Birds" and on the bottom our own names. We selected a bird we liked, painted and cut it out, then placed it in the center of our covers. Each week we add a plate to our books. The plate consists of a piece of drawing paper with an inch margin. We divide the paper into two parts, the upper half for the bird's picture and the lower half for the description. We draw the bird and paint it in natural colors. In the descriptions, we write out all we have learned about the color, size, diet, use, habits, and range of the bird. We get a great deal of help from the little sets of birds that Church and Dwight Soda Company, of 27 Cedar Street, New York, issues. By sending them six cents in stamps or money, they will send a set of thirty colored birds, with descriptions. We took up a collection in our room and bought a bird-guide. We also get help from BIRD-LORE, which we get because we are members of the Junior Audubon Society. On Fridays we have oral composition on the bird we drew. On the following Monday we have written compositions on our bird. We pick out the best essay by vote of class, and the winning ones are sent to the different local papers to be published. It is a great honor to get your essay in the paper, so every one tries. —ELIZABETH WYATT (age 12 years), Seventh Grade, *Emerson School, Maywood, Ill.*

[The teacher writes: "This plan has been such a success in arousing interest in birds, and has caused the pupils to accumulate such a fund of information concerning birds, that we decided to tell others about it through the pages of BIRD-LORE. The special advantage of this plan, it would seem, is the correlation of bird-study with composition and hand work. Simple as the books may be which are thus made, they offer considerable opportunity for skill and neatness, in addition to mental drill."—A. H. W.]

SEEN FROM THE WINDOW OF A RURAL SCHOOL IN VERMONT

To attract the winter-staying of birds, a doughnut had been slipped on to an apple tree branch, far enough from the tip to prevent its being blown or shaken off. This delectable morsel was duly discovered by the birds, who had come to expect little feasts from crumbs, scattered by the school children, on the top of a near-by stone wall. In a short time a lordly Blue Jay came to regard the doughnut as belonging solely to him. One day an unusual commotion called

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us to the window. The Jay was alternately scolding and pecking vigorously at the doughnut, while a red squirrel, on the under side of the twig, was gnawing the wood just at one side of the cake. Suddenly the twig fell apart, the doughnut slipped off, and was caught in a twinkling by the squirrel. He ran over the apple tree, leaped upon another tree, and from that to a stone wall, and, still running on the wall disappeared from view over a hill, —all the time pursued by the Jay shrieking, "Thief! Thief!" and making vicious thrusts at the victorious maurauder.—LELLA J. WEBSTER, *East Roxbury, Vt.*

[Here is observation and composition "on the spot" one might say. A delightful method of teaching birds is to seize any opportunity for observation, even though it disturb the school routine for a few moments. Such an observation is likely to make the pupils remember the day, the lesson taught by Nature as well as the one given out by the teacher, and the schoolroom with pleasure.—A. H. W.]

A FEEDING STATION

I think you may be interested to know some things we observe that the birds do while eating crumbs. The birds that come most frequently are: English and Chipping Sparrows, Robins, Brown Thrashers, Starlings, and Grackles. I think I have read that Brown Thrashers are shy, but they come once in awhile. This morning I noticed the English Sparrows were flying around very excitedly and a Robin was chasing a Blue Jay, and I suppose when the Blue Jay flew away from the Robin the Sparrows thought he was chasing them, which was the reason for the excitement. About a week ago mother called my attention to a female Robin with four fairly young birds around her. Two she was feeding, one she chased away, and the other didn't have any attention paid to it at all. We have had Robins and Sparrows feeding young birds in front of the window. The Robins seem tamer than Sparrows and come very close to the window. We had a Chipping Sparrow's nest about ten feet from the porch in the front. We used to be out on the porch a great deal and the birds were remarkably tame, even allowing us to approach about one and a half yards from the tree while feeding was going on. Last year Starlings were in a nesting-box put up in our yard by a boy who lived in the next house.

I want to end the letter by telling how much I enjoy BIRD-LORE and I do wish it would come oftener.—NOEL SAUVAGE, *Glen Ridge, N. J.*

[The home feeding-station is perhaps the most attractive form of bird-study for those who have only spare moments to give to it. An intimacy hard to duplicate elsewhere soon springs up between the observer and his bird-pensioners.

In the above communication, dates are not given as to the precise time when the birds ceased frequenting the feeding-station, but it was presumably a little later in the season than usual, owing to the cold, backward spring. The actions of parent birds toward their young just out of the nest are less generally understood than those of nestlings, especially with reference to birds raising more than one brood. In the case described above, lacking the actual identity of the four young birds, one might hazard a guess that the parent paid most attention to those leaving the nest last, although individual

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birds vary so much in what we may call their intelligence, that their actions are not always to be explained in the same way. Robins vary greatly in their nest-building instinct. For example, one finds their nests at almost any distance from the ground up to 50 feet or more in height, and the nests themselves in all degrees of completeness and perfection of construction, from a shallow, hastily fashioned structure, with so little mud as to puzzle the observer, to a high, shapely nest, made solid with a plaster-like foundation. Our readers send us many contributions on the Robin. Next spring let us try to follow with sharp eyes the movements of the parents and young as the latter leave their nest.—A. H. W.]

ACTIONS OF A CHIMNEY SWIFT

I have seen lots of Chimney Swifts and know where there are lots of nests but never had a Swift in my hands until the other day. There is a pair that have built in our chimney. One of them got down the stove-pipe and flew about in the pipe for a whole day. Then I became curious, so I rapped on the pipe and it began to flutter. I turned the damper off. The little fellow was frightened and flew around inside the stove. I caught him and got a good look at him and let him go. He was not hurt and flew away.—ROGER D. PINKHAM, *Lancaster, N. H.*

[Young Chimney Swifts are far from beautiful objects, and they are extremely difficult to feed, but their actions are of much interest.—A. H. W.]

NOTES ON THE FLOCKING OF SWIFTS IN FALL

We are all watching for the return of the Chimney Swift, which has been noted as early as April 10. He is an April comer that never fails us. October 12 was the last night he spent here. Before that there had been a remarkable sight every night at dusk. Scores of Swifts circled around one of the tall chimneys of Giles Hall (a brick school building four stories high), at first in wide sweeps—they had been gathering in the neighborhood since five o'clock. They came closer and closer to the chimney, until there was an unbroken, moving, twittering ring. At every round a dozen or more would sink into the open mouth of the chimney, until all had vanished and stillness reigned.—MISS LUCY UPTON, *Providence, R. I.*

[Miss Upton's reminiscences, besides giving us pleasure, always add to our knowledge.—A. H. W.

PREFERENCES OF CLIFF SWALLOWS IN NESTING

I read in BIRD-LORE last fall that a man who was lecturing said Cliff Swallows never built their nests on painted buildings, so I have watched to see, and this spring I happened to notice where they had built on six or seven different buildings.

There is a barn here near our schoolhouse where there are seventeen nests under both eaves, and the barn is painted red, and I know five other buildings

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painted red and white where there are several nests on each of them.—CLIFFORD R. GREY (age 13 years), *Lancaster, N. H.*

[Have any of our readers information to offer on this matter? Cliff or Eave Swallows, let us remember, are now very rare as compared with their former abundance in the East.—A. H. W.]

LITTLE BIRD STORIES

THE CARDINAL

One afternoon I was sitting on the porch when a mother Cardinal flew up in a tree right near our house. I hunted in the woods and found the nest. There were three eggs in it. When we came back home we saw the father Cardinal.—EMILY HILLYER (Grade 5A).

THE CROW

One day we were out in the woods. We were walking and we saw a baby Crow. Then we took it in our hands and we played with it. Then it cawed and some Crows came and then we let it go.—NORMAN ANDROBETTE (Grade 5A).

OUR BIRDS

We had honeysuckle near our fence. There were many birds around our house. A pair of Sparrows built their nest in the vine. The mother bird flew away and left the little birds there. One day I went there and looked in. I found the little birds in the nest. They had very few feathers on their backs.

Later I looked into the nest again. I found the nest covered over with a big spider's web.

We took the nest from the honeysuckle and found the little birds all dead. What do you think killed them?—MARY BURNS (Grade 5B).

[Lack of food, if the parents met with an accident, may have caused the birds' death, or possibly some form of bird disease due to parasites, but more likely, they died of starvation.—A. H. W.]

THE RABBIT

One day when I was out in the woods I saw a young rabbit. It crossed the path in front of me. I followed it and saw it go into a hole in the ground under a stump. I watched there a little while and saw another one come and go into the same hole.—THOMAS TULLY (Grade 5A).

[The family of hares and rabbits has at least twenty different species in North America. Some make burrows, others sleep on the flat ground, while others make "forms" in herbage and there squat to rest, sleeping with eyes open, it is said. They may be found in marshes, dense swamps and canebrakes, in woodland and dry, briery places or even in prairie wastes and sterile deserts, or in alpine areas.—A. H. W.]

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THE SIGNAL

One day my mother walked part way to school with me. As we were walking along, mother called my attention to a gray squirrel which had an enormous toadstool in his paws. He was nibbling away at it as though his life depended upon finishing it.

A little way off another squirrel, evidently his mate, had scampered up a tree. All of it we could see was the tail, for the tree hid the rest. It was wildly waving its tail as though signaling to the mate to hurry and get away from us.—FRANCIS DURY (Grade 5B).

[The writer knows of a box turtle that was seen to eat part of a toadstool.—A. H. W.]

THE TANAGERS

One day I had a pleasant experience with birds. It took place in the woods, and while I was walking. I suddenly noticed, sitting on a tree in front of me, a couple of Scarlet Tanagers, one large and the other smaller. I walked quite close to them before they flew to a near-by tree. They stayed around the place a few minutes, as if wishing to be friends with me, but not knowing how to begin.

When they had made up their minds that no good was to come from a strange little creature like me, they flew away without further investigating the matter.—MARY BETTS (Grade 5A).

[It is pleasant to imagine that the birds recognize us, but it is safer not to attribute to them any human actions.—A. H. W.]

THE STORY OF A ROSE

I was once a little seed and I grew and I grew until I was out of the ground.

Then the sun warmed me and I grew and I grew until all of a sudden there were leaves on my stem.

The next morning there was a bud. The next day the sun warmed me, and that afternoon it rained on my head till I was wet.

At night I went to sleep. Then in the morning the sun warmed me again till at last my bud was a full-grown rose.

I bloomed all summer. At last it began to grow cold, then all my leaves fell off and I slept all winter till next spring.—AGNES FLYNN (Grade 5A).

[These little stories of Nature come from fifth grade pupils in a school in Great Kills, N. Y. They illustrate the range of observation and imagination which pupils of this grade have, and also indicate the variety of objects likely to attract the attention at this age. Space does not permit printing all of the stories.—A. H W.]

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The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.

WILLIAM DUTCHER, *President*
FREDERIC A. LUCAS, *Acting President* — T. GILBERT PEARSON, *Secretary*
THEODORE S. PALMER, *First Vice-President* — JONATHAN DWIGHT, JR., *Treasurer*
SAMUEL T. CARTER, JR., *Attorney*

Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

$5 annually pays for a Sustaining Membership
$100 paid at one time constitutes a Life Membership
$1,000 constitutes a person a Patron
$5,000 constitutes a person a Founder
$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

NO ANNUAL MEETING

The annual meeting of the National Association scheduled for October 28 and 29, 1918, was not held because of thc seriousness of the widespread epidemic of influenza.

Quite aside from the question as to whether it would be wise to ask a large number of people, many of these from a distance, to come to a public meeting, there was also the very strong probability that either the State Board of Health, or the New York City authorities would prohibit public gatherings, as was being done in many other states at the time. Due notice of this action was sent in advance of the date to all members of the Association, and, from the many words of commendation we have received, it is evident that the decision of the Board met with the approval of the members.

The annual convention of the American Ornithologists' Union, scheduled to meet in New York City the week beginning November 10, was called off for the same reason. Many of us exceedingly regret the necessity of such action, for attending meetings of this character always results in much inspiration and a general quickening of interest on the subject of ornithology.

The Board of Directors of the National Association met on October 29, when it passed on the reports of the Secretary and Treasurer, reëlected the officers of the previous year, and transacted much other business in connection with the Association's welfare.

The reports of officers, field agents, and a large number of organizations affiliated with the National Association will be found published elsewhere in this issue of BIRD-LORE. If anyone is laboring under the impression that war activities the past year have seriously interfered with the movement for bird-study and wild-life conservation in this country, let him turn and read these reports. It will be seen that groups of people in all parts of the country have been active in carrying forward their bird-work very much as heretofore.

We should like particularly to call attention to the large number of life members enrolled the past year. The number was 161. This means that from this source the sum of $16,100 was added

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to the permanent Endowment Fund. No bequests were received during the year, although the Association was made the residuary legatee by the will of Edwin Reynolds of Providence, R. I. We are informed, however, that there will probably be no residuary estate after the specific legacies have been paid.

THE COMING YEAR

The bird-study and bird-protective organizations of this country occupy a strong place in the hearts and minds of the people. Their practical value is demonstrated in the growing crops of a million farms, and the flowers and vegetables of ten million gardens. In the great national struggle through which we have been passing, as Dr. Swope says, "The pro-Ally birds have valiantly fought the pro-Hun insects."

Bigger crops mean more food for insects, and more food for insects means more insects, and more insects mean the need for more birds, and to have more birds there is a need for more bird-students and bird-protectors and for those engaged in propaganda for bird-protection.

One of the most unpopular words in the English language is *duty*. When a man says he does a thing from the standpoint of duty there is an implied intimation that he is not doing it for pleasure. Happy is the man or woman who can get pleasure and a sense of duty performed both out of the same activity. A well-organized Audubon Society or Bird Club that is doing effective work is not only discharging a solemn duty to the less enlightened part of a community, but is also doing work that its members enjoy. A well-known writer once said of Ambassador Page that he was a man who, "Sang at his work." I have known few bird-students concerning whom the same might not be said.

That good-fellowship is developed by association with others of like temperament has long been recognized, and the getting together of members of bird-protective societies is one of the most vital ways of stimulating a deeper love for the subject of their mutual interest.

I have just been impressed anew with this fact as a result of a visit from W. A. Eliot, who is leaving for France to engage in war-work. Mr. Eliot has for two years been chairman of the Educational Committee of the Oregon Audubon Society. His account of the method by which they have aroused interest in bird-study in Portland should stimulate others to similar measures.

Two years ago they engaged the use of a room in the Y. M. C. A. building, to which they invited members of the Audubon Society and others to attend bi-weekly meetings. During the first year the attendance rarely reached over about 15, and sometimes not a third of this number. The next year they started in by holding their meetings every Saturday night and ran a column in the local paper every Friday afternoon. They secured a Balopticon by means of which they could throw pictures on the screen, either from slides or from photographs. The attendance at once began to increase, and it was soon necessary to move to a larger hall. During last winter, and until late in June, the hall, seating 250, was packed every Saturday night by the people who came to hear and learn about birds and take part in the discussions that followed.

As a result, there is in Portland and the surrounding country today a very widespread interest in bird-study and bird-protection. If it were possible to address in one audience the officers of all the Audubon Societies and Bird Clubs of the country, I should certainly insist strongly for the consideration of two suggestions to be borne in mind during the coming year: First, the great economic importance of keeping the organization going, and, second, the great pleasure and profit to be derived by frequent gatherings of the members and their friends.

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WALTER FREEMAN McMAHON

Killed in France, August 28, 1918

This Association has sustained a great loss in the death of Walter Freeman McMahon, who formerly occupied the position of Chief Clerk in our New York office.

Mr. McMahon left his duties here to go into camp on March 15, 1918, and in less than sixty days his company was ordered to France. He saw much active service in the trenches, where he was connected with a machine-gun squad. Because of his knowledge and experience in outdoor life, he was quickly chosen for the dangerous position of scout for his platoon. It was while on a desperate mission, alone, in No-Man's Land that he met his death from the bullet of a German sniper.

Mr. McMahon was born in Chelsea, Mass., in 1889. He early developed a great interest in natural history. For two years he served as secretary to Edward H. Forbush, and for a year as Secretary of the Massachusetts Fish and Game Protective Association. This latter position he resigned to come with the National Association in January, 1917.

In addition to being one of the most promising of the young ornithologists, he was a writer, speaker, and artist of ability, and gave great promise of usefulness in the cause of wild-life conservation.

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Annual Report of the National Association of Audubon Societies for 1918

CONTENTS

REPORT OF T. GILBERT PEARSON, SECRETARY

INTRODUCTION.—FIELD AGENTS.—AFFILIATED SOCIETIES AND BIRD CLUBS.—SUMMER SCHOOLS.—AUDUBON WARDEN WORK.—REPORT OF JUNIOR AUDUBON CLASSES.—MISCELLANEOUS FACTS.—FINANCES.

REPORTS OF FIELD AGENTS

WINTHROP PACKARD.—DR. EUGENE SWOPE.—ARTHUR H. NORTON.—WILLIAM L. FINLEY.—EDWARD H. FORBUSH.—HERBERT K. JOB.

REPORTS OF STATE AUDUBON SOCIETIES

CALIFORNIA, CONNECTICUT, DISTRICT OF COLUMBIA, EAST TENNESSEE, FLORIDA, ILLINOIS, INDIANA, MASSACHUSETTS, MICHIGAN, MISSOURI, NEW HAMPSHIRE, NEW JERSEY, OHIO, OREGON, RHODE ISLAND, SOUTH CAROLINA, WEST VIRGINIA.

REPORTS OF AFFILIATED ORGANIZATIONS

AUDUBON CLUB OF NORRISTOWN (PA.).—AUDUBON SOCIETY OF BUFFALO (N. Y.).—BIRD-LOVERS' CLUB OF BROOKLYN (N. Y.).—BROOKLINE (MASS.) BIRD CLUB.—BURROUGHS-AUDUBON NATURE CLUB OF ROCHESTER (N. Y.).—BURROUGHS JUNIOR AUDUBON SOCIETY OF KINGSTON (N. Y.).—CAYUGA (N. Y.) BIRD CLUB.—CHAUTAUQUA (N. Y.) BIRD AND TREE CLUB.—COCOANUT GROVE (FLA.) AUDUBON SOCIETY.—COLUMBUS (OHIO) AUDUBON SOCIETY.—DUBOIS (PA.) BIRD CLUB.—ELGIN (ILL.) AUDUBON SOCIETY.—ERASMUS HALL (BROOKLYN, N. Y.) AUDUBON BIRD CLUB.—FOREST HILLS GARDENS (N. Y.) AUDUBON SOCIETY.—FRANKLIN (N. Y.) MARSH WREN CLUB.—HARTFORD (CONN.) BIRD-STUDY CLUB.—KEZ-HI-KONE (CONN.) CAMPFIRE GIRLS.—LOS ANGELES (CAL.) AUDUBON SOCIETY.—MAYWOOD (ILL.) BIRD CLUB.—MERIDEN (N. H.) BIRD CLUB.—MINNEAPOLIS (MINN.) AUDUBON SOCIETY.—MINNESOTA GAME-PROTECTIVE LEAGUE.—NATURAL HISTORY SOCIETY OF BRITISH COLUMBIA (CAN.).—NEIGHBORHOOD NATURE CLUB (CONN.).—NEW CENTURY (UTICA, N. Y.) CLUB.—OIL CITY (PA.) AUDUBON CLUB.—PASADENA (CAL.) AUDUBON SOCIETY.—RHINEBECK (N. Y.) BIRD CLUB.—ROCKAWAY (N. Y.) BIRD CLUB.—RUMSON (N. J.) BIRD CLUB.—ST. LOUIS (MO.) BIRD CLUB.—SARATOGA (N. Y.) BIRD CLUB.—SEATTLE (WASH.) AUDUBON SOCIETY.—SOUTH BEND (IND.) HUMANE SOCIETY.—SOUTH HAVEN (MICH.) BIRD CLUB.—SPOKANE (WASH.) BIRD CLUB.—SUSSEX COUNTY (N. J.) NATURE STUDY CLUB.—VIGO COUNTY (IND.) BIRD CLUB.—WASHINGTON (IND.) AUDUBON SOCIETY.—WATERTOWN (N. Y.) BIRD CLUB.—WELLESLEY COLLEGE (MASS.) BIRD CLUB.—WILD LIFE PROTECTIVE SOCIETY (WIS.).—WYNCOTE (PA.) BIRD CLUB.

LIST OF AFFILIATED SOCIETIES AND BIRD CLUBS

REPORT OF THE TREASURER

LISTS OF MEMBERS AND CONTRIBUTORS

BENEFACTOR, FOUNDER AND PATRONS.—LIFE MEMBERS.—ANNUAL MEMBERS AND GENERAL CONTRIBUTORS.—CONTRIBUTORS TO THE DEPARTMENT OF APPLIED ORNITHOLOGY.—CONTRIBUTORS TO THE EGRET FUND.

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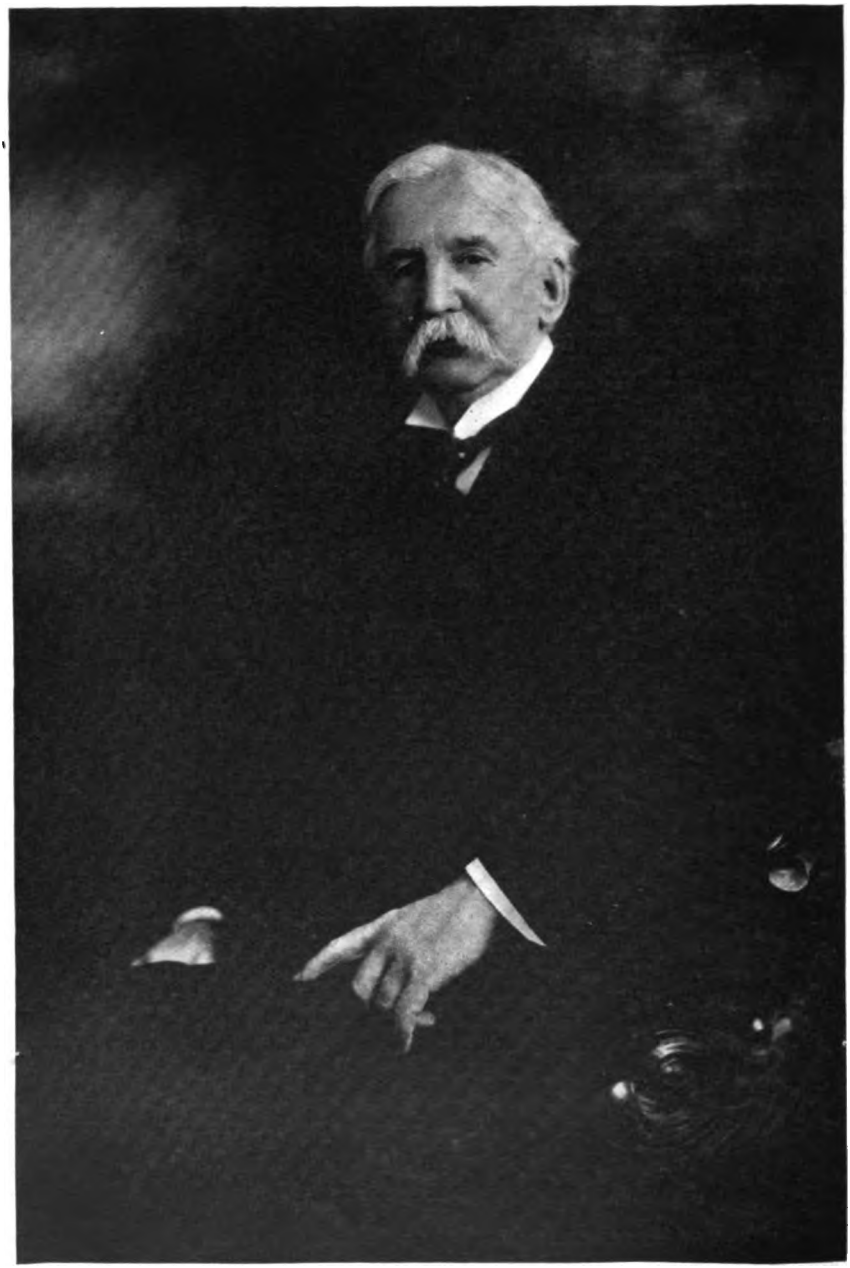

DR. FREDERIC A. LUCAS
Acting-President of the National Association of Audubon Societies

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REPORT OF T. GILBERT PEARSON, SECRETARY

INTRODUCTION

Mr. Herbert C. Hoover, United States Food Administrator, writing the Editor of the *People's Home Journal* some time ago, said, "I hope the people of the United States realize how closely related to this whole question of food-saving is the question of the protection and encouragement of insectivorous and migratory birds."

This same feeling has been prominent in the minds of the members of the National Association of Audubon Societies and the various organizations associated with it in the work for bird-protection the past year. Increased acreage under cultivation very naturally means more insects, and more insects, in turn, means the need for more birds to combat them. Hence, perhaps greater than ever before in this country, there has been a need for Audubon Society service.

There has been determined effort on the part of certain land agents in Oregon and California to wrest from the Government the title to Klamath and Malheur Bird Reservations, in order that these vast bird-refuges may be drained and converted into ranches. The Association is combating these efforts with the greatest energy, and Mr. Finley, our Oregon agent, is now working with the Biological Survey to secure a law in Oregon which will save these Reservations for all time.

A great cry has arisen of late that the sheep-raising industry on the islands off the coast of Maine is being ruined because of the presence of the Herring Gull colonies. Arthur H. Norton was sent to investigate the matter, and his reports thus far received tend to show that the presence of the Gulls on the islands is responsible for improving the grass-supply rather than destroying it.

In response to a request from the United States Food Administration, the Secretary, in June, investigated the feeding-habits of the Brown Pelican along the Gulf Coast of the United States from Corpus Christi, Texas, to Key West, Fla. In this work he had the coöperation of the Conservation Commissions of Texas, Louisiana, and Florida. Every known breeding colony of Pelicans on the Gulf Coast was visited. The birds were found to be far less numerous than reputed, the number of adult birds being estimated at 65,000. Their food was found to consist almost wholly of fish never eaten by man. A more extended account of these investigations will probably be published in the near future. The expense of this undertaking was borne by the income from the Mary Dutcher Memorial Fund.

The Secretary also engaged in a lengthy controversy with influential interests that sought to get possession of Stinking Lake, N. Mex., as a private shooting-preserve. In the end, the Department of the Interior, which controlled the

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territory involved, decided to follow the course urged by the Association and made of it a bird sanctuary.

Much effort was put forward by the Association and coöperating organizations in helping to secure the passage by Congress of the Enabling Act to give force and power to the treaty for the protection of migratory birds between the United States and Canada. The final triumph of the measure on July 3, 1918, marks a most important turning-point in the history of American bird-protection.

The Association has also been active in other matters which at various times required the presence of the Secretary in Washington. One was the bill, which passed Congress, to prohibit the sale of game in the District of

YOUNG BROWN PELICANS ON A "MUD LUMP" AT MOUTH OF MISSISSIPPI
Photographed by T. Gilbert Pearson

Columbia, and another concerned the prohibition of shooting on the Aberdeen, Md., Testing Grounds. During the year much correspondence has been carried on from the home office, and literature, cloth warning notices, bird-charts, and other material distributed. All departments of the Association's undertakings have gone forward as in former years, despite the many distracting influences due to war and its attending activities.

The Association and the cause of bird-protection in general has sustained a severe loss in the death of Walter Freeman McMahon, who has recently fallen in France. Mr. McMahon was born in Chelsea, Mass., June 17, 1889. He early developed a strong interest in bird-study and for several years before his death was actively engaged in work of this character. For two years he served as secretary to E. H. Forbush, State Ornithologist of Massachusetts. Following this, for one year he was Secretary of the Massachusetts Game and Fish Protective Association. He resigned this position to come with the

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Association in January, 1917, and served in the home office in New York until he joined the Army on March 15, 1918. Mr. McMahon was not only a man of varied accomplishments, but possessed a most unusually attractive personality. As far as can now be ascertained, the date of his death was August 28, 1918. He was killed while on scout duty at the front.

FIELD AGENTS

An extremely important part of the Association's work has long been the efforts of the men and women who have officially represented our work in various parts of the country. During the year that has just closed, Edward H. Forbush, Supervising Field Agent for New England, has continued his extensive lecture and correspondence work, and was of very great service for the passage of the Enabling Act in Congress.

Winthrop Packard, Agent for Massachusetts, again directed the state activities in Junior organization, successfully solicited many members for the Association, attended to a large correspondence, gave lectures, wrote articles for the press, and made trips to Washington and elsewhere in the discharge of his duties.

Dr. Eugene Swope, Agent for Ohio, directed the campaign in Ohio for Junior Audubon Classes, solicited and secured adult memberships, lectured and carried forward a heavy correspondence in addition to giving a four weeks' bird-course at the University of Florida.

William L. Finley, of Portland, Ore., Agent for the Pacific Coast states, was active for the Junior work, lectured all over the state, took more moving pictures of birds, and has been tireless in his efforts to save, as Federal bird reservations, the lakes of Malheur and Klamath.

Mrs. Mary S. Sage continued her lecture-work in New York state until she left the employ of the Association in March, 1918. She is now engaged in Government work in Washington, D. C.

Herbert K. Job, working, as heretofore, in "Applied Ornithology," has conducted the experimental farm at Amston, Conn., run a successful summer school of bird-study at the same place, lectured, written, made moving pictures, and has given much advice to people desiring to engage in the propagation of wild birds and game.

Arthur H. Norton, Agent for Maine, has been carrying forward an important investigation of the feeding habits of the Herring Gull on the coast of Maine, as well as a study of the relationship of the colonies of these birds to sheep-raising on the outer islands.

It is with much regret that we record the death of Mrs. Granville Ross Pike, our Agent for the state of Washington. Her death occurred at her home in North Yakima, Wash., on August 20, 1918. She was one of the most successful bird-workers among children that we have ever known.

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AFFILIATED SOCIETIES AND BIRD CLUBS

The numerous demands of various war activities have adversely influenced the efforts of the organized bird-workers of the country much less than was to be expected. Especially has this been true of the older and better-established State Audubon Societies, where the feeling prevailed that now more than ever was their work needed.

Various local organizations have ceased to function for a time, but this was to be expected in view of the great demand for active agents in war-work.

The organizations now affiliated with the National Association number 137. About 60 of these have submitted reports of good organized work done the past year, and these will be found published with this report.

It is well worth the time of any conservationist of wild life to read these carefully; in fact, only by so doing can one get an idea of the tremendous amount of fine effort for bird-study and bird-protection now being put forward by these numerous organizations.

Recently the Association has been pleased to contribute to two worthy efforts of affiliated institutions. One was a gift of $500 to the Wisconsin Game Protective Association, to aid in putting a lecturer in the field. The other was a contribution of $250 toward the expense of a Museum for the Meriden (New Hampshire) Bird Club.

On the other hand, some of the societies have contributed to the expense of the Association's work for Egret-protection.

SUMMER SCHOOLS

During the summer, for the fourth year, the Association arranged with the directors of summer schools for courses in bird-study. The plan, as heretofore, provided for the expense of the course being borne jointly by the Association and the educational institutions where they were given. This instruction was given as follows with good results:

Dr. J. M. Johnson, of Brooklyn, N. Y., gave a four-weeks' course at the Summer School of the South at the University of Tennessee, Knoxville. Several illustrated evening lectures were also delivered to the entire Summer School.

Miss Mary Bacon, of Athens, Ga., represented the Association in a course of enthusiastic bird-work at the University of Georgia, Athens.

Miss Belle Williams, of Columbia, S. C., conducted a four-weeks' course at the Winthrop Normal College Summer School, Rock Hill, S. C.

Ralph Hubbard continued his bird-work of last year at the University of Colorado, located at Boulder.

Dr. Eugene Swope, of Cincinnati, again worked at the University of Florida, conducting bird-courses and giving illustrated public lectures.

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J. Bowie Ferneybough, of Richland, Va., was again at the University of Virginia, located near Charlottesville.

Many hundreds of teachers gathered at these various centers of learning received this instruction and had their interest in bird-study and bird-protection greatly quickened.

AUDUBON WARDEN WORK

Wardens to the usual number have been employed during the year to guard important breeding colonies of water-birds. There are three groups of these agents. First, there are those engaged by the Association in coöperation with the United States Biological Survey. These men protect certain Federal Bird Reservations. Second, there are the wardens who guard Egret colonies, and third, the general bird-colony wardens who are mainly located on islands along the Atlantic Coast from North Carolina to Maine, inclusive.

The past season appears to have been only an average one for the nesting birds. At some stations they have done well; at others, owing to various natural causes, the hatch and development of the young were seriously interfered with. The following quotations from wardens' reports will indicate something of the conditions that prevailed in various protected colonies.

Great Duck Island, Maine: "The young would have done better if food had not been so scarce. I helped feed them as far as I was able."

Metinic Green Island, Maine: "Herring Gulls this year drove all the Terns (Arctic and Common) off the island. However, they settled near by."

Cone Island, Maine: "On the night of June 22–23 from 900 to 1,200 eggs and young Herring Gulls were destroyed by a heavy sea that broke over the island."

Gott's Island, Maine: "Owing to the scarcity of food this summer the Gulls killed many of their young."

Dry Tortugas, Fla.: "There has been a great increase of Sooty Terns this year. I estimate the number at 100,000. There were about 15,000 Noddy Terns."

Virginia Coast Islands: "High tides destroyed most of the eggs and young of the Laughing Gulls, Terns and Black Skimmers."

Wepecket Island, Mass.: "The Terns are gradually decreasing. There were about 2,500 of them this season."

Islands of Mississippi Sound: "All the birds seem to be increasing. I estimate, for the season, breeding birds as follows: Laughing Gull, 94,000; Royal Tern, 52,000; Black Skimmer, 61,000; Cabot's Tern, 16,000; Caspian Tern, 600; Forster's Tern, 16,000; Least Tern, 96,000; Black-crowned Night Heron, 9,600; Louisiana Heron, 63,000; and Brown Pelican, 50,000. Total, something more than 450,000."

The Egret colonies, as a whole, fared better this year than did the sea-

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birds. Very little killing of our protected birds was reported. The drying up of many of the feeding-grounds in central Florida caused some birds to leave their accustomed haunts and seek nesting-places in new territories.

In protecting the hard-pressed Egrets, guardianship is also extended to many other water-birds that assemble with them in their rookeries. Thus, on the Association's Bird Island in Orange Lake, Fla., in addition to 350 large Egrets and 300 Snowy Egrets, large numbers of Louisiana Herons, Black-crowned Night Herons, Green Herons, Little Blue Herons, Ward's Herons, Water Turkeys, Boat-tailed Grackles, Purple and Florida Gallinules, Least Bitterns, Florida Ducks, and White Ibis received protection. A pair of the rare Glossy Ibis (probably the White-faced) also occupied this wonderland of bird-life. In all, forty-seven wardens were employed this year.

REPORT OF JUNIOR AUDUBON CLASSES

Despite all the distracting influences the past year, the formation of Junior Audubon Societies has gone steadily on as heretofore. The systematic plan of supplying children with first-class material for doing simple elementary work in bird-study is appreciated by school men and women in every state in the Union and in Canada.

One evidence of how the Junior Audubon work holds in a school where it is once established is shown by the many teachers in the grades who have formed a Junior Society every season for the past five or six years. Usually the classes move on so that the teachers have a new set of children each year, but their interest in the work causes them to encourage each group coming under their care to organize for bird-study. In many other instances, where a Junior Class has been formed in one of the lower grades, the children have insisted on reorganizing year after year, although the class continually passes on to the care of different teachers.

This year, as heretofore, immense numbers of bird-boxes have been built, and around thousands of schoolhouses birds have been fed in winter. Many attractive programs have been rendered, and the local interest in bird-preservation kept alive and stimulated by the little folk at school.

For the school year ending June 1, 1918, classes were formed and members enrolled in the different states and in Canada, as shown in the following summary:

Summary for the year ending June 1, 1918:

State	Classes	Members	State	Classes	Members
Alabama	5	147	District of Columbia	1	33
Arizona	4	74	Florida	21	483
Arkansas	1	31	Georgia	30	938
California	197	5,678	Idaho	57	1,530
Colorado	48	1,487	Illinois	247	7,285
Connecticut	324	7,608	Indiana	109	2,999
Delaware	3	51	Iowa	118	3,021

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State	Classes	Members	State	Classes	Members
Kansas	65	2,009	Ohio	815	18,227
Kentucky	29	851	Oklahoma	26	814
Louisiana	7	212	Oregon	90	2,716
Maine	37	856	Pennsylvania	460	14,169
Maryland	46	1,421	Rhode Island	19	548
Massachusetts	329	8,210	South Carolina	24	901
Michigan	196	5,099	South Dakota	33	889
Minnesota	261	6,375	Tennessee	26	693
Mississippi	16	484	Texas	45	1,269
Missouri	100	2,658	Utah	37	826
Montana	66	1,620	Vermont	37	797
Nebraska	78	1,995	Virginia	25	715
Nevada	—	30	Washington	214	5,339
New Hampshire	92	2,221	West Virginia	39	1,260
New Jersey	174	4,885	Wisconsin	161	3,981
New Mexico	3	92	Wyoming	5	147
New York	891	24,448	Canada	381	8,763
North Carolina	48	1,245	China	1	15
North Dakota	30	938			
			Totals	6,071	159,083

Never in the history of our country have school children been called upon to contribute to so many projects, and so continuously, as of late. The campaign in the schools for War Savings Stamps, for membership in the Junior Red Cross, seeds for war gardens, and other war activities, have been tremendous. Giving continually to these most worthy causes has had a very decided effect on the enrollment of the Junior Audubon members. Scores of teachers have reported that they found it absolutely impossible to collect the 10 cents necessary for the Junior fees.

In one large school building in the Middle West, a teacher who had asked that the children in the various grades bring their Audubon fees to send in on a certain date, found when she went to collect them that the children had brought their money, but that at the last moment the principal of the school had instructed them to give this money to the Red Cross.

This is only one of many instances of a more or less similar character. As a result of these causes, enrollment of the Junior members showed a marked falling off from the year previous when the number reached the high-water mark of 261,654.

This work with the young people was made possible by the following contributions:

Unnamed Benefactor	$20,000 00
Mrs. Russell Sage	2,500 00
General Coleman duPont	1,000 00
George Eastman	1,000 00
Other Subscribers	1,580 00
Total	$26,080 00

MISCELLANEOUS FACTS

During the year we have issued four new Educational Leaflets, publishing them first in BIRD-LORE, and afterward separately. These were Leaflet No. 94,

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Pileated Woodpecker; No. 95, Raven; No. 96, Slate-colored Junco; No. 97, Least Tern. Our Department in BIRD-LORE occupied 241 pages. Of Educational Leaflets, reprints were made to the number of 611,400. Circulars announcing the plan of our Junior work to teachers 100,000, letterheads and envelopes 255,111. Other miscellaneous items such as gum labels, membership blanks, Pigeon folders, and notification cards amounted to 187,000.

Stereopticon slides to the number of 795 have been sold at a little above cost, and our moving-picture films on various occasions have been sent out at a nominal rental.

FINANCES

The Association enrolled during the year 161 life members at $100 each. The funds received from this source, together with $375 in gifts and partial payments on life membership fees, makes a total of $16,475 added to the permanent Endowment Fund.

During the year the Investment Committee invested $10,000 of this amount in Third and Fourth Liberty Loan Bonds.

The sustaining membership, the fee for which is $5 annually, has this year numbered 3,890. The total income of the Association for the year has been $121,335.28.

NESTS OF BROWN PELICAN, GRAND COCHARE ISLAND, LOUISIANA
Photographed by T. Gilbert Pearson

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REPORTS OF FIELD AGENTS

REPORT OF WINTHROP PACKARD, FIELD AGENT FOR MASSACHUSETTS

The good work that the National Association of Audubon Societies has done in past years throughout Massachusetts certainly has a firm foundation in the hearts of the people, for, in spite of war conditions, the interest in the welfare of our wild birds continues.

Your agent has been able, during the past year, to add to the membership list of the Association 31 life members and 101 sustaining members. In the Junior Class work, 8,210 new Juniors have been added. The interest of the public in the cause has been shown in the continued calls for lectures, exhibitions, information, and personal advice and assistance in bird-work. In this the office has worked with various influential and important societies. It gave an exhibition at Worcester in conjunction with the State Society and the State Board of Agriculture; at Horticultural Hall at Boston it joined with the Massachusetts Horticultural Society in its exhibition and instruction work for home-gardens, making a display of bird-protection material during the spring and summer months. It joined with the State Grange and State Audubon Society in a Bird Day exhibition and lectures. The requests for traveling exhibits of bird-protection material to be shown in various parts of the state, and indeed throughout New England, have been numerous. These requests have been invariably filled, as have those for bird-lectures.

Legislation throughout New England has been carefully watched, and your agent is glad to state that no bills adverse to bird-protection have passed.

New England, last year, passed through the severest winter in its history. Your agent feels that the request sent out by him that the birds be fed with more than usual care, and which received a hearty response, was effective in saving the lives of many of our winter birds which seemed to have come through the inclement weather successfully.

The office, with its exhibitions, has been very popular with visiting Junior Classes and their teachers, and the mutual good-will that is established has helped greatly in the Junior work.

Your agent had the honor to represent the bird clubs and Audubon Societies of New England at Washington during the campaign for the passage of the Enabling Act, and was present when the House finally voted in favor of this great measure for bird-protection. He is proud to say that there was no dissenting voice among our New England representatives.

In closing, he wishes to express his appreciation of the unfailing wisdom and friendly guidance of T. Gilbert Pearson, Secretary of the National Association, and that of Edward Howe Forbush, the New England Agent for the Association, to whom such measure of success as has been achieved is largely due.

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We feel, here in Massachusetts, that bird-work is war-work, and do our best to carry it hopefully forward toward the winning of the war.

REPORT OF EUGENE SWOPE, FIELD AGENT FOR OHIO

December 15, 1917, the Junior Class work in Ohio surpassed all former records for the state up to that date. This was accomplished at the same time that Liberty Loan, Thrift Stamp, Red Cross, and relief-fund drives were in progress. Then came the severe cold, fuel shortage, closed schools and suspended Audubon work for nearly three months.

With the coming of spring, your agent again pushed the Junior work as a "win the war" measure and was able by the close of the school year to show a record not much behind that of the previous year.

Valuable assistance was rendered by county and city superintendents, and especially by Dr. J. C. Hambleton, Nature-Study Supervisor of Columbus schools, and President of the Columbus Audubon Society. Dr. Hambleton edited the State Superintendent's annual publication, which in former years had been largely devoted to Arbor Day exercises, and made it a Bird Day book. It was almost wholly devoted to appeals and arguments for a better knowledge of wild birds and for their protection. The editor intentionally coöperated with the Association's work and greatly aided it, for which he deserves the thanks of all bird-protectionists. This publication contained articles by Dr. Frank M. Chapman and T. Gilbert Pearson.

Many newspapers of the state published such news items and reports as your agent sent them, thereby keeping the work of the Association before the public. One point urged was bird-conservation as a protection for war-gardens against pro-German insect ravages. This received wide attention and did much good.

During the year, there have been more than the usual number of miscellaneous calls upon your agent for assistance and advice in the matters of attracting, feeding, and protecting the wild birds. These calls came from every conceivable source and give evidence of the widespread influence and of the confidence in the Association. Every call was answered promptly.

In all probability, attempts will be made in the next legislature to repeal certain protective laws. For instance, the lake fishermen have recently discovered that Terns, Kingfishers, and Blue Herons consume "tons of choice fish." As early as July they began a campaign of education advocating the "extermination" of these birds.

Ohio Audubon people saw to it that their representatives at Washington favored the Enabling Act.

One summer month was devoted to conducting a large bird-study class in the Teachers' College at the Florida State University and giving public lectures

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there. So enthusiastic was the class that five members earned college credits, which apply on their degrees. A number of others earned the regular summer school credits. The class was composed of teachers from every section of Florida. Five of the summer school instructors regularly attended the field-work classes. It seems that the Association's efforts in Florida might give a new impetus to the study and protection of the wild birds of that state.

At no time, and under no circumstances, did your agent fail to disseminate cat-control propaganda.

DR. EUGENE SWOPE LISTENING TO BIRD-SONGS IN FLORIDA

REPORT OF ARTHUR H. NORTON, FIELD AGENT FOR MAINE

The winter of 1918 was one of unusual severity, in low temperature and vast quantity of sea-ice. With the closing of Bach Cove, Portland, and the adjacent Presumpscot River, the greater part of the thousands of Black Ducks which annually winter there left for the outer islands. Still, a few hundreds remained at their usual resorts and were fed daily for about five weeks by the loca Audubon Society and a considerable number of individuals. As a result of this constant attention, relatively few perished. Not only in the vicinity of Portland, where this large number was under constant observation, but

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from the Penobscot region, came reports and inquiries as to methods of providing for the Ducks.

Probably due to the exceptionally warm, dry weather of May, the Terns laid in very large numbers a week or more earlier than usual. Though later the season was wet and lacking in sunshine, it is known that a fair number of young reached maturity. Herring Gulls have done well, and this summer a few nested within 15 miles of the city of Portland, a range extension of about 60 miles. Laughing Gulls have been seen at several points some distance from their breeding-place, indicating a slight increase of these birds. An inspection of the colonies of Herring Gulls in the region of Jericho Bay was made August 13. At this date none of the young Gulls had left the rookeries, and the abundance of both old and young Gulls showed the result of a season free from molestation by man. The birds have increased considerably in the region since the last general inspection of 1914. With the advance in the prices of wool and mutton, the once profitless custom of keeping sheep on the outer islands seems to promise a fair return. With this promise has arisen, in the region of this inspection, a claim that the sheep will not feed upon the vegetation that the Gulls have fouled by their presence, and that Gulls therefore menace the sheep-raisers' interests.

It was found that much of the soil of these islands is very sterile, composed largely of poorly decomposed wood, many of the deposits being over 2½ feet deep, entirely destitute of mineral soil. By visiting several different islands where the Gulls were abundant, and others where none or very few were nesting, it was possible to make a comparison of the conditions prevailing at the two different locations. On the islands where there were few Gulls, the vegetation was poor, closely grazed, and struggling hard for existence; moreover, the sheep there were eating the coarser forms of vegetation, left untouched on the islands where the Gulls were numerous. On those islands where the Gulls were numerous, the vegetation was invariably luxuriant. On each of the latter were areas nearly free from Gulls, yet the sheep showed no preference for those locations, but were found to feed in the midst of the colonies as much, or even more, than in the parts where the Gulls were nearly absent. On these islands the coarse flags, sedges, rushes, and grasses were not touched by the sheep.

One cause for the alarm-cry, that the Gulls are ruining the pasture, may be found in the fact that many of these outer islands produce an abundance of a native chickweed (*Cerastium arvense*), which is partial to sterile, or "sour," soil. Its habit is low and matting, forming large areas, but its color and low growth, cause it to attract no attention in the grazed pasture. With the "sweetening" of the soil, this native chickweed has begun to disappear, and in its place has come an introduced relative, *Stellaria media*, a lover of rich soil, which here reaches a length of nearly 2 feet, and is of a yellow-green color, in striking contrast to the color of the grasses. This is an annual plant, and should the

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land occupied by it be reseeded with grass or clover, the improvement of the pasture would no doubt be excellent. Indeed, it is a striking fact that nothing has been done to improve these pastures, though grazed by sheep for years.

REPORT OF WILLIAM L. FINLEY, FIELD AGENT FOR THE PACIFIC COAST STATES

During the past year, sixty-five lectures, mostly illustrated with moving pictures, have been given by your agent through the Pacific Northwest. A number of these have been given for the benefit of the soldiers in the cantonments in this part of the country and were enthusiastically received. Lectures were also given under the auspices of the Red Cross and the Junior Red Cross in the schools. Approximately $1,000 was raised for these organizations.

Among many of the schools, there has been very creditable bird-work during the past year. In Portland, the pupils of the Kenton School reproduced the bird masque, entitled "Bobby in Birdland" which appeared in the November-December, 1917, issue of BIRD-LORE. Moving pictures were taken of this play as it was acted in the woods. Moving pictures were also made of some of the manual training classes building bird-houses and the children putting up these houses along the Columbia Highway. These, with other pictures of Audubon work, are to be used for educational purposes in the schools. The Junior work among the school children during the past year for the Oregon Audubon Society has been in charge of Mrs. A. L. Campbell. She has visited many different schools, giving bird-talks and organizing societies.

Under the direction of Walter P. Taylor, of the Biological Survey of the Department of Agriculture, a systematic survey of the bird and animal life of the state of Washington is being carried on in conjunction with the different educational institutions. During the past summer, Mr. Taylor has been working in the field with Prof. W. T. Shaw of Pullman College. Inasmuch as the wild antelope are rapidly disappearing, and since there are approximately not more than from five to seven hundred of these animals in the state of Oregon, an effort is being made to secure an area of land, partly in southern Oregon and partly in Nevada, where these animals range and set it aside as a permanent reservation. This area is also the home of large flocks of Sage Grouse. The details of this plan are being worked out by Dr. George W. Field, of the Biological Survey.

For the past two years, Malheur Lake Reservation in southeastern Oregon has been in jeopardy. Certain promoters have been trying to get the right to drain this body of water and dry up the surrounding marshland, advocating that this would make a valuable area for agriculture. On the other hand, this area is very alkaline in character, and experiments on similar areas by the Department of Agriculture show that it is of little or no value from the agricultural standpoint. If it were once drained, the whole place would

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soon revert to a desert and Oregon would lose one of its most valuable assets. At the coming session of the Oregon legislature an effort will be made to secure the passage of a law ceding all state jurisdiction over this area to the United States.

It is very interesting to note that the only colony of Egrets (*Ardea egretta*) nesting in Oregon have at last taken up their permanent home on Malheur Reservation. In my annual report, published in the November-December, 1912, issue of BIRD-LORE, I told of a visit to this colony which had a short

PINTAIL DUCK. THIS SPECIES BREEDS ABUNDANTLY ON KLAMATH AND MALHEUR BIRD RESERVATIONS, OREGON
Photographed by H. T. Bohlman

time previously been discovered on an island in Silver Lake. There were eleven or twelve Egret nests at that time. Two or three years later, Silver Lake dried up and they moved. In 1917, they were reported to be nesting in the willows in the northern part of Malheur Lake Reservation. George Willett, who was in charge of the reservation during the past season, reported that the number of nests had doubled since our visit to the colony in 1918. The water on Lower Klamath Lake Reservation has been lower this year than at any previous time, on account of closing the dyke between the lake and Klamath River. In order to prevent the destruction of Klamath Lake Reservation also, it will be necessary to get a law passed in both the Oregon and California legislature ceding jurisdiction to the United States.

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REPORT OF EDWARD H. FORBUSH, GENERAL AGENT FOR NEW ENGLAND

Your representative for New England has devoted most of his energies applied in your service to the task of securing the passage of the Migratory Bird Treaty Act, the most imperative matter regarding bird-protection for the year. In this he has merely assisted the well-directed efforts of your Secretary, who has reported in detail upon the campaign and its successful result. An attempt has been made also in Massachusetts to secure better protection for the Terns that have colonized on our shores. The Least Tern, which now has been reduced to comparatively few individuals in the Northeast, has been decreasing in numbers during the past three years. The larger species have been troubled by encroachments on some of their breeding-grounds, and may have been crowded off Muskeget Island to some extent by the increase there of the Laughing Gull, although no direct evidence that the latter molests them has been submitted. About thirty years ago, this Gull is said to have been reduced in New England to some twenty pairs of birds—the remnant left on Muskeget Island. Under protection they have since increased so that now there are many thousands breeding there, and they now appear along the coast in the breeding-season from Connecticut to Maine.

In the meantime, the Terns on this island have rather decreased in numbers. In the winter of 1917–18, Wm. C. Adams, Chairman of the Massachusetts Commissioners on Fisheries and Game, proposed to give some of the principal Tern colonies special protection during their coming breeding-season. It was recommended that wardens be allotted to guard five of the principal colonies and to destroy cats and skunks that were decimating them. This was done, and, apparently, as a result of this treatment, the birds have increased in number and at least two new colonies have been started on Cape Cod, where many young birds were successfully reared this season. Many of the eggs were destroyed by a storm and high tide but the birds nested again successfully. There has been a noticeable increase in the numbers of Common and Roseate Terns and a lesser increase of Least Terns. Arctic Terns also have been reported from time to time. The increase of Herring Gulls along the Maine Coast probably is responsible for an accession to the number of this species summering in Massachusetts. Many hundreds now remain on our coast all summer and a few breed here.

REPORT OF HERBERT K. JOB, DEPARTMENT OF APPLIED ORNITHOLOGY

During the past year requests for practical informatiou about attracting or propagating birds, or both, have continued to come from all over this

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country and Canada, and even from abroad. In reply, Bulletins 2, 3, or both, are sent free under the Applied Ornithology Fund, and letters accompanying often are extended "specifications." For instance, a gentleman in California wrote that he had a "farm" of 180 acres, enclosed with wire fence, including a 20-acre pond. He wanted to breed various upland game-birds and wild fowl, and to try to make the place a wild-bird paradise. After describing it carefully, he asked me to write him what I would do if I owned it myself and were embarking on such a plan. The variety in these inquiries may be indicated by quoting another from a woman in Pennsylvania, who desired light on how to get rid of a Whip-poor-will which came every night to her domicile and kept up such a noise that her summer boarders could not sleep, and there was danger of it breaking up her business!

As usual, a number of estates have been personally inspected. The last, at present writing about to be visited, is the Hewlett Bay Park project on Long Island, which is to be laid out as a wild-bird sanctuary. Public lectures have been given from time to time, including a course of three on game propagation at Cornell University, two lectures at Oberlin College, two for a Bird Day celebration at Toledo, Ohio, and others for various schools, bird clubs, and other institutions.

The Experiment Station and Summer School project at Amston, Conn., has developed in an encouraging manner. Pupils came from various localities, as far away as Cleveland, Chicago, and Cincinnati, and expressed themselves enthusiastically. Mornings were spent afield, returning to the Audubon House at 11 o'clock, where instruction was given until the dinner hour, using a practically complete collection of New England birds. Afternoons were spent on, *in*, or at the lake, or in photographing birds. There were occasional picnic suppers at the lake, and moonlight boating excursions, listening to music and night sounds. About one hundred species of birds were found and studied in the Amston sanctuary in July. The experimental work was successful. The bird-boxes were well occupied, and young Quails, Pheasants, and Wild Ducks were reared, the latter including Wood Ducks, Redheads and Canvasbacks. Ninety per cent of the ducklings hatched were reared to maturity. Much credit for this is due to the careful work of the assistant, Richard E. Harrison, son of Prof. Ross G. Harrison, of Yale University, whose keen sight and hearing in locating bird subjects on field excursions were also greatly appreciated.

The lack of proper intelligent help during the winter months has hitherto been the one drawback to the full success of the experimental work, but this fortunately, has now been overcome. Through the organization of a number of influential men, R. J. McPhail has just been installed at Amston as resident game-keeper and naturalist. Mr. McPhail was brought up on great British game-preserves, and is one of the best professional game-keepers in America. To pay the considerable expense of this experimental work, he is to conduct

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a model commercial game-farm, which will also serve as the basis for another Summer School session in August, following the bird-study session in July, as a training-school for professional game-keepers and estate workers. The receipts of the Department for the year have covered all expenses, with a balance in the treasury. The finances of the Amston work are managed separately, otherwise the financial showing would be on a considerably larger scale.

BABY GULLS BEGINNING LIFE ON THE COAST OF MAINE

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REPORTS OF AFFILIATED STATE SOCIETIES AND OF BIRD CLUBS

REPORTS OF STATE SOCIETIES

California.—During the year the Society has been carrying on its usual activities, being materially helped by the various local organizations, each of which has been looking after the needs of its own neighborhood. More than ever have we been called upon to investigate cases of bird-killing. This is because some birds pick fruit and vegetables, and some people have overlooked their economic value. The small boy, too, imbued with the spirit of war, has made use of the sling-shot and air-gun, and the birds have been the targets. In an effort to counteract these conditions, we have distributed many of our own cloth warning-cards, as well as those of the National Association. We are looking forward to a legislative year and trying to be ready to meet the adverse bird bills which we feel sure will be introduced.

We are fortunate in having added to our ranks two splendid workers who have come to make their home in California. One, Mrs. William Falger, former president of the North Dakota Audubon Society, is living in Modesto, in the heart of the big San Joaquin Valley, where she is lecturing before schools and clubs, and organizing the children. In this region of grain fields and orchards she can be of the greatest service. The other is Mrs. G. M. Turner, former secretary of the Buffalo (New York) Society. Mrs. Turner has located in Riverside, in the southern part of the state, and is chairman of bird-work for the women's clubs in her district. With her illustrated lectures she is doing much good.

Because of war conditions, there has not been quite so much lecture-work as usual; still, our slides have been used in several parts of the state. It is with sorrow that I report that the English Sparrows are getting into the South, there being many of them in Los Angeles and neighboring cities. As yet I do not see that they are driving out the other birds.—HARRIET WILLIAMS MYERS, *Secretary.*

Connecticut.—Though the educational activities of this Society have been none the less during the past year, on account of war conditions and the pressure of more direct patriotic work, the social element has in a great degree been omitted. There have been seven meetings of the Executive Board, and, in spite of the severity of the past winter, a quorum was never lacking. Forty of the Audubon Charts of winter birds were added to the sets now circulated for us by the Connecticut State Board of Education. We paid half of the cost of rebinding and cleaning necessary to traveling libraries, as well as transportation one way for the libraries sent to teachers, the Board of Education paying the other half. Two new traveling libraries were voted to be pur-

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chased as memorials to two faithful workers who have passed on—Miss Mary Burr Kippen, the Society's treasurer for nineteen years, and Miss Martha Burr Banks, an ardent nature-lover and worker who furnished the text for one of our popular illustrated lectures, "The Orchard Playroom." At the moment of writing this report the choice of the books is being made, in coöperation with Mrs. B. H. Johnson of the State Board of Education, so that they may be fitted to special needs.

A new lecture, 'The Connecticut Homeland—Its Birds, Flowers and Trees' with 100 colored slides by Wilbur F. Smith and text by Mrs. Wright, has been prepared and would have been given for the first time at our annual meeting on October 26, but the influenza caused the cancellation of all but the business part of the program—our first break during the twenty years of the life of the Connecticut Society, in the pleasant social gatherings where all the members of the Society meet for interchange of ideas and the personal 'keeping in touch' so necessary to all successful endeavor.

The work of Miss Frances A. Hurd, the School Secretary, has been most faithfully carried out, notwithstanding bad weather and the fact that the various war activities must of necessity draw from the dimes that the children of the Junior Audubon Classes might have spent for the necessary set of study leaflets. She reports: towns visited, 21; schools, 75; talks given, 320; pupils addressed, 30,000; classes formed, 324; Junior Members gathered in these classes, 7,608. Last year the class membership was 12,546, but in spite of this falling off, Connecticut still stands well in the front ranks of the work of bird-protection.

Birdcraft Sanctuary still continues to more than hold its own in attracting, not only the interest of the general and more or less curious public, but the careful study of many people from all parts of the United States, who are about to form sanctuaries and wish to see at first hand what may be done within the limit of 10 acres. The warden reports that 5,576 persons have visited the place during the year, a very remarkable showing when it is considered that for three months the country was icebound and that we did not have the members of the conference of the spring of 1917 to swell the number. Cold as was the winter, not a single week passed without a few guests. The number of species of birds observed in the Sanctuary was 134. Within its bounds, 26 species nested, and 111 individual nests have been located up to date, many more always being added to the list after the leaves fall. We have added to our collection 82 birds picked up dead and brought in by friends. These have either been mounted to replace less perfect specimens in the habitat groups or prepared as 'skins' for study or exchange. A pair of the Pheasants given by our State Fish and Game Commission nested in the Sanctuary and brought out a brood.

Owing to the pressure of time in printing the reports by the National Association, the report of our traveling libraries and lectures, always written

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up in such an interesting way by Mrs. Johnson, is not yet available, but will appear in a later issue of BIRD-LORE.

As it is, while much more might be said of our work, we will abide by the present demand—*Conservation* of space, time, and energy—while today the working motto of our Society is, "*Conserve* everything beautiful for the delight of men's eyes on their home-coming," hence the title of our lecture, '*The Connecticut Homeland—Its Birds, Flowers and Trees*,' for surely this is one of the most vital ways of keeping the home-fires burning and the home-love alive. —MRS. W. B. GLOVER, *Secretary*.

District of Columbia.—At our annual meeting we had a most interesting lecture by Dr. Oberholser, his subject being "Common Birds about Washington." In spite of the very upset condition of Washington, owing to the war, we were able to hold our five bird-study classes under the valuable leadership of Mrs. Florence Merriam Bailey, and to take our always delightful spring bird-walks with such fine leaders as Dr. Palmer, C. R. Shoemaker, Mr. and Mrs. L. D. Miner, and Mr. Raymond Moore. Just a few years ago the latter was one of our Junior Members, now he has proved himself one of our most careful and accurate observers. (Keep up the work among the Juniors!)

The walks were well attended, and a large variety (139) of birds was seen, the most unusual being Laughing and Bonaparte Gulls, Barred Owl, Warbling Vireo, Nashville and Tennessee Warblers, Wilson's Snipe, Black and Common Terns, and Alder or Traill's Flycatcher. Coöperating with the powers that be, we have secured a strip of land along Rock Creek, in the Zoölogical Park, as a Bird Sanctuary, and, with the consent of the authorities, have placed a number of nesting-boxes. Through the generosity of one of our members, and the consent of the officers of one of our most beautiful cemeteries, Oak Hill, we hope to make that another Bird Sanctuary. On Decoration Day a few of us went there, and Dr. T. S. Palmer took us to the graves of six ornithologists, or those interested in bird-protection, and gave us short, but interesting accounts of the work accomplished by each. One day in August, a member of our Executive Committee called me up and said, "Have you seen the Purple Martins that gather near the Red Cross headquarters every evening? They begin to gather about ten minutes before 8 and are gone by 8.30." Mr. Oberholser computed the number at about 35,000.

A few evenings later my sister and I went down. It was just 7.45, and not a bird was to be seen. I was bitterly disappointed and thought they must have left. In a minute or two I saw one, then two, and by 7.50 they were coming thick and fast, until the wires were black with them. A large gilt ball seemed to be a favorite lighting-place, and they appeared to knock each other off the ball in their desire to obtain a foothold on this desirable perch. After a few minutes of restlessness they began rising, skimming, and circling around, and

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at 8.23 not a bird was to be seen, all having gone to roost in the nearby trees.—HELEN P. CHILDS, *Secretary*.

East Tennessee.—In spite of the fact that our hearts and hands are full to overflowing with war-work, we still keep in mind our feathered friends and never let an opportunity pass to arouse interest in behalf of the birds by talking in schools, before farmers' conventions, and instructing Boy and Girl Scouts. Four courageous members of the Society, Dr. McDonald, Mr. Aiton, Mrs. Walter Barton, and her sister, Miss Stephenson, arranged an exhibit at the East Tennessee Division Fair. One corner of the Land Building at Chilhowee Park was decorated with autumn leaves and pine branches. The walls were covered with colored pictures of birds, the table was spread with literature, while BIRD-LORE was advertised extensively, as was Mr. Pearson's latest book.

Miss Hargott, of the Young Women's Christian Association, loaned us a large collection of birds' skins. Our Health Officer closed the fair prematurely on account of the Spanish influenza. We were entertained and instructed by Prof. Johnson of the Summer School, who met with us while he was here and talked to us on western birds. A copy of BIRD-LORE, sent the Society because of its affiliation with the National Association, is placed in the Lamson McGhee Free Library so "he who runs may read."—(Miss) MAGNOLIA WOODWARD, *Secretary*.

Florida.—During the past year, war activities have absorbed popular attention in Florida, as elsewhere, and the Stat Audubon Society has not made its former headway. The work in the public schools, especially, has suffered. At the end of the war, however, we shall endeavor to revive this interest by an organized field campaign. Since our last report, two branch societies—the Miami Audubon Society and the Winter Park Bird Club—have been organized, and by regular meetings and bird-lectures and talks, with some field-work, have accomplished encouraging results. The Society has continued the circulation of warning cards, leaflets, and game-law digests, and has also circulated a large edition of a booklet in defense of the Brown Pelican. In the face of strong sentiment of press and public favoring and demanding better protective laws for the wild game, Florida continues in old ruts without state means of enforcing the game laws, turns the hunting-license money into channels having no connection therewith, and attempts, by antiquated and farcical methods to protect the game by county authorities. The Society will make vigorous efforts to remedy, or at least improve, this unhappy condition at the legislative session next April.

The Society has made efforts to keep in touch with and receive the cooperation of the various county wardens, but the result has not been encouraging. One notable exception, Warden Thompson, of Lee County, has made a

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fine record for his convictions of violators. Now that the Migratory Bird Treaty Act is in force, the Society is expecting good results from the activities of the Federal Inspectors in this service. As in the past, the Florida Federation of Woman's Clubs has splendidly coöperated with the Society in its efforts to save the bird life of the state. The Winter Park Bird Sanctuary continues to be a conspicuous success, a large increase in the bird population being noticeable. More than forty species were noted as nesting on the Sanctuary this year. The farmers on lands adjoining the Sanctuary, fully informed of the value of the Quails and other birds as the best means of crop insurance, have greatly helped in this protective movement. It is notable that during an army-worm invasion of the state the past spring and summer, only those localities suffered where bird-life has been inadequately protected. Thousands of dollars were spent in fighting this pest, but not one cent was required for this purpose on lands within or near the Winter Park Sanctuary, where a large acreage of cotton and castor-beans was grown, the latter for the Federal Government.—W. SCOTT WAY, *Secretary.*

Illinois.—Interest in bird-conservation has lagged somewhat this year on account of war activities, but a fairly normal season's work has been accomplished. The membership list has held its own, losses being offset by new names, and a goodly number of members have changed from the active to contributing class. The officers remain the same, with one exception. In June, Miss Amalie Hannig resigned. She has long been devoted to the cause of the birds, and her faithful services to the Society were deeply appreciated. Mr. Roy M. Langdon, the energetic secretary of the Maywood Bird Club, which has made more than a local name for itself, has been elected a director of the Society. A generous amount of new material has been added to our sets of slides, bringing them up to a higher standard of excellence. That the educational value of these lectures is appreciated, is evidenced by the constant demand for their use by schools and colleges. Our president, Mr. Schantz, has given illustrated talks on birds to various schools in Chicago and suburbs.

Two numbers of the Audubon Bulletin have been issued, "Winter 1917-18" and "Spring and Summer 1918." This small magazine, full of interesting articles and informing material, proves to be the Society's most valuable educational medium. While exerting every effort to disseminate facts relating to the economic importance of our bird-life, the Society is also striving in various ways to arouse interest in forest preserves, state parks, and wild-life refuges, since every bit of protected woodland and waterway means conservation of bird-life. The Cook County Forest Preserve, now including some 15,000 acres of woodland, is, in effect, a bird sanctuary. Recently the Board of the Sanitary District, through the influence of the Audubon Society and other bird organizations, also declared its territory, comprising 40 miles of waterway, a bird sanctuary. In addition to the Bulletin, the Society has printed and dis-

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tributed hundreds of copies of a unique and valuable "Cat Circular" by Roy M. Langdon. These circulars, a truly patriotic appeal to control cats and help save birds and food, are for sale. Order for quantities have already been received from State Audubon Societies and other bird organizations.

The second spring lecture-course, held in Central Music Hall on Saturday afternoons in March, was well attended. Ernest Harold Baynes talked on "Birds in the Nesting Season;" Norman McClintock gave "American Birds in Motion Pictures;" Edward Howe Forbush spoke on "How Birds Help Us Win the War;" and Louis Agassiz Fuertes, new to a Chicago audience, lectured on "Birds and Bird Music." From a purely financial standpoint our lecture-course was not as successful as that of last year, but the keen interest in such lectures is so apparent, that we now consider the course an annual affair.—(Mrs.) BERTHA TRACER PATTEE, *Secretary*.

Indiana.—April 26, 1918, marked the twentieth year of the existence of the Indiana Audubon Society. A vast amount of good has been accomplished for bird-protection during this period. Since the war has come, with all its demands for food, we have dedicated ourselves toward the greater service of having the young people, and public at large, see and learn the vast importance of protecting and loving our useful birds. It was thought best to postpone the annual meeting this year until 1919. This was the opinion of the Committee on Arrangements at Washington, Ind., where we had planned to meet, and of the members from whom a vote was taken. The interest in bird-life in the state has in no way diminished. This is evidenced by the numerous questions sent in about birds, by the bird-boxes, bird-shelters, bird-baths, and feeding-devices which may be seen in the school yards of towns, cities, and along the streets, all through the country.

Talks have been given, with and without slides, before children of the graded schools, high-school and college students, at clubs, farmers' institutes, and before local and Junior Audubon Societies. No doubt it will be written in history that the birds have been, and are, a very important asset in winning this war for freedom.

Miss Margaret Hanna, of Fort Wayne, has given many talks and has organized classes for bird-study, not only in Indiana, but in some of the southern states where she was called to speak to the young ladies in private schools. One boy who is in the trenches wrote home: "When I am off duty I find the birds of great interest, and one avenue by which I can rest my mind and have relief from the awful roar of the infernal machines of war."

A course in bird-study is given in the Teachers' College of Indianapolis. The past year has shown the largest number of students in that course of any previous year. These are sent out as teachers over Indiana and other states, preaching the gospel of bird-study and bird-protection.

The Boy Scouts are adding their support to bird-protection, and have

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offered to feed the birds in winter, when they take their hikes over the country. Posters relating to the open season, which have been sent by the National Association of Audubon Societies, have been mailed to the members to be used where they will do the most good. Articles on birds have been published in the newspapers and in the *Indiana Educator-Journal* during the year. Last April we published the following leaflets: "The History of the Indiana Audubon Society;" "How to organize an Audubon Society;" and a "Checking List of the Birds of Indiana." Five hundred of each were printed and distributed. The memorial to David Worth Dennis, so beautifully written by Alden Hadley, was this year printed in the "Proceedings" of the Academy of Science.

We will be represented at the annual meeting in October of the Federation of Clubs of which this Society is a member. The Society lost a good bird-student when Mrs. Etta S. Wilson moved to Detroit. Mrs. Wilson was Field Secretary of Indiana. Michigan has gained a valuable bird-student and bird-defender. What the next year may demand of us we do not know, but one thing seems very evident, and that is, that the birds, the soldiers of the soil, will need our protection in a way we never yet have known, in order that we may have food for ourselves and some to spare for the people of Europe.—(Miss) ELIZABETH DOWNHOUR, *Secretary*.

Massachusetts.—The Massachusetts Audubon Society takes pride in the progress of the work at its Bird Sanctuary, Moose Hill, Sharon, during the past year. Mr. Harry G. Higbee is now established as resident warden in full charge of the wild bird-life of the 265-acre estate. A daily survey of the ground is made, each nest and species is card-catalogued, and it is proposed to keep minute and definite records of all individuals. The farmhouse which is the warden's headquarters is rapidly being made into a museum of the natural history of the region, especially of its bird-life, the plan being to make the Bird Sanctuary a model and an object lesson for all students of bird-protection methods. The region is admirably adapted to the purpose, and the estate, lying as it does within the great state reservation of some 2,000 acres, is a natural nucleus of wild life. Bird-students are encouraged to make use of the Sanctuary for observation purposes, and the number of visitors steadily increases.

On May 18 the Society held its first Annual Bird Day Outing there, and all were charmed with the beauty of the place and the great numbers of the birds seen. Fifty-one species were noted on that day, some of them rare, eighteen pairs of eleven species nesting.

We rejoice, also, in the final passing of the Enabling Act, the culmination of legislative work for the Migratory Bird Treaty for which the Society, both as a whole and through individual members, has worked untiringly for a number of years and toward which it has directly contributed over $3,500.

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We appreciate the wise and vigorous leadership of the National Association in this work.

The Society is glad to report the coöperation and good will of the State Fish and Game Commission and the Legislative Committee on Fisheries and Game in all its work for legitimate bird-protection, as a result of which there were few undesirable bills brought forward in state legislation and none passed.

New sustaining members added during the year have totaled 298; life members 95, making a total of sustaining members since the founding of the Society of 3,486, life members 536.

There was an average attendance of 1,500 at the annual lecture course, the lecturers being Stanley Clisby Arthur, of Louisiana; William Lovell

MUSEUM AND WARDEN HEADQUARTERS ON THE MASSACHUSETTS AUDUBON SOCIETY BIRD SANCTUARY

Finley, of Oregon; Norman McClintock, of Pennsylvania. Charles Crawford Gorst gave whistling imitations at each lecture.

At the great annual mass meeting in Tremont Temple, the speakers were the Rev. Manley B. Townsend, Secretary of the New Hampshire State Audubon Society, and Edward Howe Forbush, State Ornithologist. Charles E. Moulton gave bird imitations.

The multitude of varied activities annually reported have been vigorously carried on. There is no space to enumerate them here. They have covered not only the state, but in many instances have extended to the farthest corners of the nation.—WINTHROP PACKARD, *Secretary-Treasurer.*

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Michigan.—In consequence of the war, no new work has been attempted, nothing but the usual distribution of literature, the correspondence, placing of charts and plans of work in schools, and a few lectures given in new territory. Many of the cloth posters have been sent out, and an exhibit is ready to go to the annual meeting of the Federation of Clubs, to convene in Battle Creek on October 15 and 16. Two sources most helpful in passing on material for bird-protection are the Federation, which sent out to all the clubs of the state a plan of work prepared by us, and the Wild Life Conservation Department of the Woman's Committee of the Council of National Defense, which sends bulletins, leaflets, and the like, into every township in the state.

Grand Rapids is to be congratulated on having so educated its people with its cat license law that where two years ago they were willing to pay licenses on more than 4,000 cats, this year only about 800 were willing to invest money for the protection of their tabbies. Not only our Audubon Society, but the whole state, has suffered a great loss this year in the death of Charles K. Hoyt, of Lansing, Vice-president of our Society, who died last July. Mr. Hoyt's naturally judicial mind, combined with his extensive knowledge of our game laws and his kindly helpful spirit, made him invaluable to the cause of bird-protection, and our Society can erect no better memorial to him than to "carry on" along the progressive lines he always advocated.

Let us take heart,
For through the grim gray clouds of war
We still can hear the Bluebird's song afar.—(Miss) GERTRUDE READING.

Missouri.—The annual meeting was held December 21, 1917, at the Missouri Botanical Garden, St. Louis. A paper by Otto Widmann, "Bird Clubs and Other Societies for Bird-protection" was presented, and an exhibition on the economic value of common birds of Missouri, of nesting-boxes, feeding-devices, and literature was a feature of the programme. The following officers were elected: Dr. Herman von Schrenk, President; Mr. Ralph Hoffman, Vice-President; Dr. R. J. Terry, Secretary-Treasurer. During the year a small increase in membership, including several life members, has taken place. It is to be regretted, however, that the membership roll is still only the nucleus of what our Society should develop into. The "War" posters have been distributed and put up in many sections of the state. Considerable effort was made by the Society toward the passage of the Enabling Act for the Bird Treaty. Affiliated with the Audubon Society of Missouri are: The Science Section of the Wednesday Club of St. Louis; the Parents' and Teachers' League of Webster Groves; and the St. Louis Bird Club. In January, Ernest Harold Baynes was the guest of the Society, with the St. Louis Bird Club and St. Louis Garden Club, lecturing on "Birds in the Nesting Season."—R. J. TERRY, *Secretary-Treasurer.*

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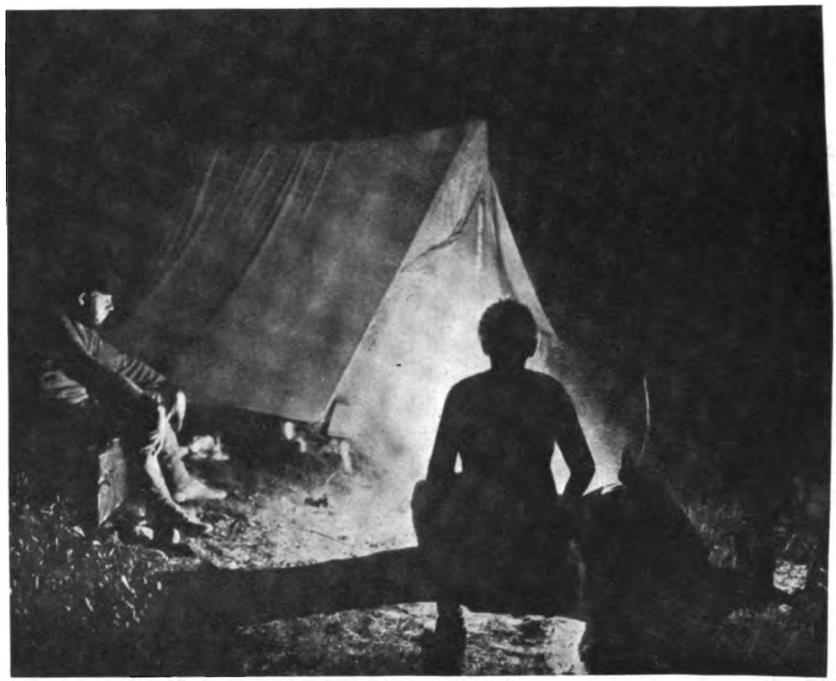
New Hampshire.—Despite war conditions, our Society has enjoyed a successful year. Some members have felt unable to continue their help, but these losses have been more than made up by others. Our membership now totals 756, including 69 life members. The total receipts for the year were $1,626.34 and the disbursement, $1,457.50.



MANLEY B. TOWNSEND (AT THE LEFT), PRESIDENT OF THE NEW HAMPSHIRE AUDUBON SOCIETY, IN CAMP IN THE NORTH WOODS

A large correspondence has been maintained, over 14,000 circulars and bulletins urging bird-conservation have been sent out to selected names, and more than fifty lectures, most of them illustrated, have been given before all sorts of gatherings. No call has been neglected. Many schools were visited and the interest of the young in bird-study stimulated. In these times it has seemed a golden opportunity to call public attention to the aid afforded the agriculturist, orchardist, and forester by the insectivorous and weed-seed eating birds. Articles have been prepared and published in the daily papers, pointing out that increased bird-life means fewer pestiferous insects and, consequently, more food for a world hard pressed for it. A lecture on "How the Birds Can Help Us Win the War" has been prepared and frequently given.

Our Society took active part in the campaign to secure the passage of the Enabling Act to put teeth into the Federal Migratory Bird Law. A large number of our members, urged by this office, telegraphed or wrote their

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representatives in Congress. New Hampshire's congressional delegation voted right on the question. We mourn the death of Senator Jacob Gallinger, one of our honorary vice-presidents, and ever an intelligent friend of bird-conservation. We shall make a determined effort to secure the passage of a cat license law in this winter's legislature. The promise of substantial aid from other organizations gives ground for hope that we may succeed.—MANLEY B. TOWNSEND, *Secretary.*

New Jersey.—The activities of the New Jersey Audubon Society during the past year (its eighth) have been more along lines of routine than any startling developments. In common with many such organizations, it has felt the handicap which war conditions imposed, notwithstanding the fact that bird-protection is truly a war-work, as well as a peace-work.

In the legislative field, the Society, at the request of one of its members, had introduced and secured the passage of a state law removing protection from the European Starling, and successfully combated an effort to amend the bill so as to remove protection from Gulls. It also aided in the passage of a bill extending for three years the closed season on Wood Ducks. The fight for a cat license and for a closed season on Quail was unsuccessful. Having taken part in the effort in behalf of Federal legislation, it joined in the general rejoicing over the enacting of the Enabling Act, giving effect to the treaty with Canada. One patron, five life members, 35 sustaining members, 148 members, 16 associate members and 4,933 Junior members have been enrolled.

The New Jersey Audubon Bulletin has been issued at regular two-month intervals—six issues. Newspaper publicity work has been more satisfactory than ever before, including a number of special feature, illustrated articles. Twelve lectures have been given during the year by the Secretary, at schools, farmers' institutes, clubs, and other gatherings, and the Secretary has also acted as one of the judges in two bird-house contests. During the year 373 School Bird Clubs were organized with a total membership of 8,419.

The eighth annual meeting was held in the Free Public Library, Newark, October 8. The business session was at 4 P.M., immediately followed by a meeting of the Board of Trustees; public session at 8 P.M. Herbert L. Thowless, of Newark, was elected a member of the Board of Trustees in place of George Batten, deceased; otherwise the membership remained the same. The officers were reëlected. At the public session the Secretary gave an illustrated address on "Our Wild Birds and Their Place in the War."—BEECHER S. BOWDISH, *Secretary.*

Ohio.—Despite the fact that war-work of various kinds has occupied much of our time during the past year, the work in the interest of bird-protection has not been neglected by our Society. We realize, as never before, what an

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important factor our birds are in winning the war. We aim to impress this fact upon the general public. We have had many splendid lectures during the past year, dealing with the value of birds as an economic factor, as well as the best method of attracting and protecting them. The "cat question" has been debated a great deal of late in one of our evening papers. At last, it seems, a goodly number of people are beginning to realize what a terrible menace cats are to our bird population. We expect to make renewed efforts during the ensuing year to induce our City Council to pass an ordinance providing for the destruction of stray cats and the licensing of all other cats. Our Society invested almost all its funds in Liberty Bonds.

Last winter we had the extreme pleasure of presenting to the public several reels of films depicting the home-life of our wild birds. These films, which are rented by the National Association of Audubon Societies for a nominal sum, are of the greatest value in instructing the people in bird-lore. They deserve to be shown in every city and village in the country. Our aim is to make the coming year even more successful than the year which is past.—WILLIAM G. CRAMER, *Secretary*.

Oregon.—Our educational work has been carried on as usual during the past year. The plan has been continued of holding public meetings each Saturday night in the public library at Portland. These have been under the direction of the Bird Study Committee, of which W. A. Eliot was chairman. A systematic study of birds has been taken up, and, each week, lectures have been given, illustrated with stereopticon slides and moving pictures. By the aid of these lectures and the many bird-walks beginners have been able to get a good knowledge of our common birds.

A contest in building bird-houses was held among the members of the Junior Audubon Societies last spring, and a large number of houses were made and put up in the woods. The various classes who won in the contest were taken on an automobile trip up the Columbia River Highway, and the best bird-houses were placed in the trees along the highway to attract songsters.

At the annual meeting of our Society, held October 5, the following officers were elected: President, William L. Finley; Vice-President, Willard A. Eliot; Corresponding Secretary, Dr. Emma J. Welty; Recording Secretary, Mrs. R. B. Horsfall; Treasurer, Herman T. Bohlman. Dr. Welty gave a short history of the Audubon movement. Dr. George W. Field and Dr. A. K. Fisher, both of the Biological Survey of the Department of Agriculture, gave interesting talks on the work of the Survey.—DR. EMMA J. WELTY, *Secretary*.

Rhode Island.—A record of the work of the Audubon Society of Rhode Island for the past year consists of activities through the circulating library, through field-trips, and through lectures.

The books of the library have been used by 1,049 individuals and have a

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circulation of 6,735. This cumulative work of the library throughout the state is an important factor in making for the permanent protection of birds and wild life.

There have been twenty field-trips during the year, with a total attendance of 206. The personnel of these trips consisted of school children, school teachers, and adult members of the Audubon Society.

The Secretary-Treasurer and Librarian have given twenty-one lectures about birds to a total of 1,265 individuals, grouped as classes of school children, audiences at state granges, and as clubs and other organizations in and about Rhode Island. In this connection, the Secretary has given four lectures to the enlisted men at Camp Devens, under the auspices of the Y. M. C. A., to the approximate total of 300 men. It should be of interest to members to know that from 1912 to 1918 inclusive, officials of the Audubon Society of Rhode Island have given 307 bird-lectures to a total of 38,350 individuals.—H. L. MADISON, *Secretary.*

South Carolina.—In the press of war-work, the purposes for which the Audubon Society exists have not been entirely neglected. Letters have been answered promptly, and a few talks and illustrated lectures made. A set of bird-lessons, prepared by the Secretary for use in an elementary textbook on agriculture, has been printed in leaflet form for free distribution by the State Game Warden.

A six weeks' course in bird-study, offered by the National Association of Audubon Societies in coöperation with Winthrop College during the summer session, was taught by the Secretary. The connecting up of the inquirer (individual, institution, or community) with the National Association is perhaps the most valuable service of a State Society.—BELLE WILLIAMS, *Secretary.*

West Virginia.—Our Society has not been so alert and active this year as could have been desired, but some good, tangible results have been achieved. Our Secretary has been appointed a deputy game warden for Wood County, and several others in different localities in the county have been commissioned. It is hoped that this will be the means of inspiring better respect for existing bird laws. Our Educational Committee has done much work in the schools of Parkersburg and vicinity, by distributing literature and getting the teachers interested in Junior Audubon work. The cloth bird-conservation notices, issued by the National Association, have been mailed to all the post offices in this county, and also to other towns and gun clubs throughout the state. Action has been taken to have them distributed to all farmers who will agree to post them on their lands. During last winter, when we had an unprecedented period of snow and ice, the daily press was freely used to urge the necesssity of maintaining lunch-counters for the starving birds. It was a hard winter on the Bob-White, and our Society was instrumental in saving some of

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them by timely distribution of grain in the fields and fencerows. In addition to several minor walks for bird-study, we had a delightful field excursion in May in the vicinity of Beloit, Ohio, conducted by P. W. Athey, an accomplished ornithologist, and a valued member of our Society. On this trip of three hours' duration thirty-eight species of birds were seen and identified.—WALTER DONAGHO, *Secretary*.

REPORTS OF AFFILIATED ORGANIZATIONS

Audubon Club of Norristown (Pa).—The Club has had a very enjoyable and instructive year. The advantage of having the opportunity to hold its meetings in the Regar Museum has made it possible to study bird-life with mounted specimens and moving pictures, as well as to seek them in the woods and open fields. H. Severn Regar, Vice-President of the Audubon Club, and owner of the fine collection of birds classified in the Regar Museum, has provided an up-to-date moving picture and stereopticon machine. In March, Samuel Scoville, Jr., spoke to the Club on the topic, "Byways and Skyways," and brought pictures and nature-study most effectively before the Club members. On May 30, by the generous hospitality of Col. William Henry Wetherill, the owner, the Club made its annual field-day outing to Mill Grove Farm, on the Perkiomen Creek, the former home of John James Audubon, and studied birds in their native haunts.

At the September meeting of the Club, Mrs. S. Louise Patteson gave a most instructive and interesting talk on "The Birds, Our Allies in the Food Campaign." At the June meeting, J. Fletcher Street addressed the Club on "Local Birds in Their Haunts." All these talks were illustrated with lantern-slides and were followed by moving-picture reels showing "Birds of Prey," "The Owl Family," "Birds of the Home Garden," "Birds of the Southlands," and others. Previous to each meeting, in the afternoon, the members of the Junior Audubon Club were entertained by the first showing of these moving pictures, and from seventy-five to a hundred young people attended.—HELEN A. BOMBURGER, *Secretary*.

Audubon Society of Buffalo (N. Y.).—The Society completed its ninth year with a paid-up membership of 262 members. Mrs. Turner, the retiring Secretary, who had served for eight years, was presented with a life membership in the National Association in appreciation of her services. Owing to the severe weather and the inefficient street-car service, only one meeting was held during the winter. At that time Mr. Hoot, of Rochester, gave an interesting lecture entitled, "Hunting without a Gun." Mr. Avery, our President, lectured on April 26 on "Our Feathered Allies" and showed many beautiful pictures which he had made. He spoke especially of the economic value of birds and showed that it is necessary to protect them in order to conserve the crops.

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The bird articles and migration calendar in the Sunday *Express* were resumed during the spring months, and besides attracting wide attention to bird-study, netted the Society about $50. The Almanac Committee, consisting of Miss Crump and Mr. Avery, prepared a most interesting bird almanac, of which a thousand copies were printed and ready for distribution earlier than in previous years. The price of the almanac was 50 cents, and they had a wide distribution throughout the country. Unsold copies were presented to Junior Audubon Classes in the schools. The membership in the Junior Audubon Circles was not so large as usual, many children giving all their money to the Red Cross or spending it for Thrift Stamps.

Perhaps the most successful, and certainly the most pleasurable, part of our work was a series of excursions held on Saturdays to the following places: April 27, Williamsville; May 11, Springbrook; May 18, Fort Erie; May 25, Abbott's Pasture; June 1, Hamburg; June 8, Athol Springs; and June 29, Niagara Glen. Mr. Avery was the leader. The smallest number present was eight and the largest thirty-four. These trips were announced in the daily papers and several interested persons learned of our Society and asked to become members.—(Miss) CAROLINE O. DOLL, *Secretary*.

Bird-Lovers' Club of Brooklyn (N. Y.).—We hold our meetings the first Saturday of each month, from October to June, inclusive. At each meeting some member gives a talk on birds. These are very helpful and are thoroughly enjoyed. On the first Saturday of each month, from October to June, a field-trip to Prospect Park is conducted by a member of the Club. A list is kept of the birds observed, and this is posted in the Children's Museum, where the Club holds its meetings. From September, 1917, to August, 1918, the number of birds seen in the Park was 117. Each year the Club holds a contest for members of the Children's Museum. For three months the children study the migration, nesting habits, and enemies of the birds. They also study the bill, feet, wings, and feathers of various types of birds and their uses to the birds. Then an essay is written and the winner is awarded a pair of field-glasses.—HOWARD E. WHITLOCK, *Secretary*.

Brookline (Mass.) Bird Club.—Our membership remains about the same as last year, but the interest in bird-life and protection is steadily growing. We have had our regular meetings, with lectures, which have been well attended, and our field-walks on Saturday afternoons and holidays have been so popular that it has been almost impossible to conduct them the way we would like to. Our bulletin for the winter walks and lectures is already issued and includes a lecture this month by Herbert Parker, former attorney-general of Massachusetts, on his aviary at Lancaster, Mass; also an illustrated lecture on Labrador by Dr. Charles W. Townsend.—CHARLES B. FLOYD, *ex-President*.

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Burroughs-Audubon Nature Club of Rochester (N. Y.).—We have had a very interesting year. Our President, Wm. B. Hoot, had spent the preceding winter in California, and on two different occasions he entertained the Club with illustrated descriptions of the West, concluding each talk with a delightful account of his "Six Weeks in Sparrowdice." Sparrowdice was his own name for one of the many bird-haunts in California, and the bird pictures which he secured there were unusually fine. Mr. Calvin C. Laney, Vice-President of the Club, and superintendent of Rochester's park system, gave a very interesting and instructive description of the Arnold Arboretum. The Secretary-Treasurer gave his illustrated lecture, "Personal and Intimate Experiences with the Birds," using about 150 hand-colored pictures which he himself had taken. The out-of-door tramps through woods and fields were among the most pleasing and profitable of our meetings, and in this way many a member had his first introduction to some of Nature's rarest treasures.—CLINTON E. KELLOGG, *Secretary-Treasurer.*

Burroughs Junior Audubon Society of Kingston (N. Y.).—We held the first meeting for the year on September 18, at which time officers were elected. Meetings have been held once a month. At one meeting our Manual Training Director explained how to construct bird-houses and feeding-stations; at another, one of our faculty gave an address and imitated the calls of about fifteen birds very accurately. One trip was made to the home of John Burroughs, and it was a very interesting and instructive one. Last spring we celebrated

KINGSTON (N. Y.) BURROUGHS JUNIOR AUDUBON SOCIETY

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Bird Day in chapel. At that time prizes were awarded to Helen Carroll and Donald Church for the best original compositions on "Bird Protection as a War Measure."

Cloth posters, received from the National Association of Audubon Societies, have been put in the woods about Kingston, permission having been obtained from the Mayor to place the posters anywhere the Society deemed wise. Lectures were also given, with the aid of colored slides obtained from Albany. A collection of about thirty mounted specimens of our common wild birds was loaned to the Society for study. We hope to continue our interest and do more work in the open.—(Miss) ELIZABETH RICHARDS, *Secretary*.

Cayuga (N. Y.) Bird Club.—Owing to the many calls upon our time and money the past year, we made no special plea for funds nor introduced any innovations. The inauguration of a course of public lectures on the "Conservation of Wild Life" by the Cornell College of Agriculture brought to Ithaca so many of the leading ornithologists of the country that it was unnecessary for the Bird Club to hold any public lectures. The usual field-trips during the migration period of April and May were kept up and were well attended. The trips were taken in the Sanctuary every Saturday morning from 6 to 8 A.M.

Another bird-box competition was held among the school children, and about 100 well-built boxes were entered. Assurance that the boxes were all put up was secured by not announcing the prizes until the children brought back word that all of their houses were in position and ready for tenants. The regular feeding-stations in the Bird Club Sanctuary were maintained during the winter, and an increasing number of birds patronized them. The diet of millet and sunflower seed was somewhat more expensive than the usual one of chick-feed or cracked grain, but was deemed advisable.—ARTHUR A. ALLEN, *Secretary*.

Chautauqua (N. Y.) Bird and Tree Club.—While originally a summer organization, the Club has, for two years, held meetings during the winter at the Museum of Natural History in New York City, being most fortunate not only in its place of meeting, but also in the coöperation of T. Gilbert Pearson, who as Vice-President is seldom allowed to miss a meeting, the members always being eager to hear of his work all over the country. At one meeting Prof. S. C. Schmucker, after a preliminary lecture in the Hall on the evolution of the birds from the Reptilia, conducted the members about the Museum, showing from the splendid collection of fossils just how closely the great Dinosaurs were related to the earliest birds. Of especial interest was a fossil of an extinct bird which shows two rows of well-developed teeth. Dr. G. Clyde Fisher, of the American Museum of Natural History, has also lectured to us delightfully. Besides paying especial attention to the utilitarian value of birds as a war measure, the Club is helping the Committee for Devastated France in their

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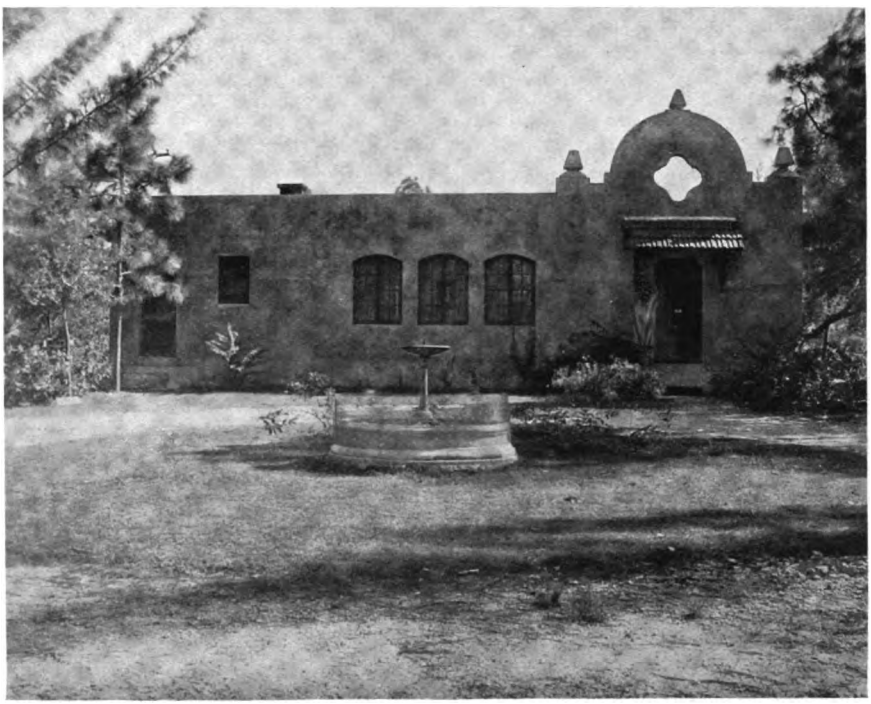
work of replanting the fruit trees of France, 60,000 or more having been ruthlessly cut down by the retreating enemy.—(Miss) HENRIETTA O. JONES, *Corresponding Secretary.*

Cocoanut Grove (Fla.) Audubon Society.—This year three active departments have been added: Legislative, Educational, and Study. The first is busy with important reforms; the second is doing fine work in Sunday and public schools; while the chairman of the third has created an unusual interest in the study of home-birds.



BIRD-FOUNTAIN (BY EPISCOPAL CHURCH RECTORY) ERECTED BY THE COCOANUT GROVE (FLORIDA) AUDUBON SOCIETY

We have secured a county game-warden and have presented two bird-fountains, one to the Episcopal Church and one to the Christian Science Temple. Both have been appreciated by the birds and are very attractive. Our bird poster at a poster exhibit (of "Help Win the War") held by the Dade County Federation of Women's Clubs was the center of attraction. It showed some of the birds that eat the boll-weevil. We have interested two of the county farming organizations to the extent of gaining their promise of protectors for county birds. Our membership continues to increase; it now numbers 120. We own a Liberty Bond.—MRS. KIRK MUNROE, *Secretary.*

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Columbus (Ohio) Audubon Society.—Interest in birds, more as a relaxation than the doing of any special work, characterized the Society the past year, owing to the stress of the times. Interesting lectures, to only two of which an admission fee was charged, were given by the Club. In October, Mrs. S. Louise Patteson urged the boys and girls to put up bird feeding-stations and nesting-boxes, showing pictures of those used on her own place. In December, Prof. R. C. Osburn, of Ohio State University, traced the evolution of bird-life in an illustrated lecture which opened the eyes of many bird novices. The January lecture by E. H. Baynes was interfered with by zero weather and limited car service. Mr. Baynes, however, generously gave his "Wild Animal" talk the next afternoon, and went to Camp Sherman in the evening, repeating the talk and pictures for the boys in the camp. In February, Prof. J. S. Hine, President of the Society, took his audience to Alaska, showing the pictures and telling his experiences on the trip with the National Geographic Society explorations in the Mt. Katmai district. In April, C. C. Gorst celebrated the migration season by migrating with his audience from the Western Meadowlark to the Eastern Hermit Thrush and the Southern Mockingbird, through inimitable bird-calls.

Besides the annual fee, a subscription was made to the National Association to aid in bird-protection. In order to meet requests of bird clubs in the vicinity, the constitution was amended, and a club of forty girls from St. Mary of the Springs was the first to become affiliated with the Society. Only members of the Society were allowed on the field-trips, which were made on Saturday afternoons from March till June. These meetings varied from a few enthusiastic ones on rainy or windy days to thirty or more when hospitable members of the Club opened their summer cottages.—Lucy B. Stone, *Secretary*.

DuBois (Pa.) Bird Club.—During the first year of its existence the Club was increased from an original membership of eight to about sixty, largely through a lecture by Ernest Harold Baynes. This was delivered in the high-school auditorium, and as a result a much greater interest in bird-life was awakened and numbers of bird-houses were placed throughout the city.

Our greatest difficulty has been to arouse enthusiasm; people will join the Club but it is difficult to find dependable workers. Much of the success of Mr. Baynes' lecture was due to the efforts of two of the busiest women in the community, Mrs. Julia Long and Miss Sweeny, the former a teacher of domestic arts and the latter a teacher of mathematics in the city high school, who were of great assistance to the President of the Club in this matter. Mrs. Long, through her work among the school children, was instrumental during the severe winter weather in having hundreds of birds fed. The DuBois *Morning Courier* printed a number of bird articles by the Club's President.

Encouraged by the results already obtained, we expect to do something really worth while next year by showing the economic value of birds, their

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need in agriculture, and the like. We would appreciate inquiries and suggestions.—W. D. I. ARNOLD, *President.*

Elgin (Ill.) Audubon Society.—This Society, organized in 1914, has a membership of 120, of whom 95 are on the active list, 16 on the associate list, and 9 on the Junior list. Meetings are held at the homes of the members. Last October, in coöperation with the Garden Club, we sponsored a musical lecture by Professor Olds for the benefit of the Red Cross. With the following slogan, "Crops will save the Allies; Birds will save the crops," the annual exhibit was held April 19 to 22, 1918, during which time it was estimated there were 2,000 visitors. No admission was charged, the purpose of the exhibit being solely to interest the people of Elgin in the need of bird-protection.

The Club has placed posters in regard to the conservation of birds and flowers in all the public parks, and now has twenty more printed on oilcloth, with a special appeal, to be placed this fall. One of the Club members, a taxidermist, prepares for the club collection any bird which comes to accidental death. The two issues which the Club is at present working on are, first, an ordinance restricting stray cats, and, second, the repairing of the city museum.—CHARLOTTE WEATHERILL, *Secretary.*

Erasmus Hall (Brooklyn, N. Y.) Audubon Bird Club.—We have been active the past year, and have conducted bird contests in the schools, one an Essay Contest, the essays of which were written on some phase of bird-life, and the other, a Poster Contest, the posters of which showed the importance of birds to agriculture. The winners of these contests were awarded school medals. The Club has voted to hold these contests each year. A Reed "Bird Guide" was won as a prize by Jerome Allen for identifying the greatest number of birds between March 1 and June 1. His list numbered 69 species.

The Club does most of its field-work in Prospect Park, although some trips are made to Sheepshead Bay and Staten Island. Members of the Club helped maintain a feeding-station in Prospect Park during the early part of last winter.—(Miss) GRACE SEELIG, *Secretary.*

Forest Hills Gardens (N. Y.) Audubon Society.—The idea of the conservation of our natural resources has always been back of the Audubon movement, which has two aspects, the economic and esthetic. Since the war began, Forest Hills Gardens Audubon Society has emphasized the economic value of bird-life in preventing the terrible damage done to our crops by worms and insects. This damage has reached almost unbelievable figures, and there are only two ways of cutting it down. One is by constant spraying or dusting with chemicals, which entails expense and labor, and the other is attracting the birds around farms and gardens and letting them do the work.

To protect our beautiful gardens, where the trees, shrubbery, and flowers

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are our greatest assets, cultivating the birds is not only a privilege but a necessity. If extra food, such as millet, rye, oats, and sunflowers are planted in vacant lots and in the individual gardens and if fresh water is provided in shallow basins, and nesting-boxes put up, the birds will come of themselves and destroy enormous quantities of injurious insects. Every opportunity has been taken to bring home the wartime lesson of conservation. It was urged last spring and summer, in our exhibit, in lectures to the children, in notices in the regular fortnightly bulletin, and in the small lamp-post bulletins. It was still further emphasized when Ernest Thompson Seton gave his lecture on "Wild Life" under the auspices of the Audubon Society on April 26, 1918.

Even the annual bills for dues carried the slogan, "Attract the Birds and Save the Gardens."—MARY EASTWOOD KNEVELS, *Secretary*.

Franklin (N. Y.) Marsh Wren Club.—Our Club was organized in the summer of 1907. We are intensely active in the study of bird-life. Our Society motto is "Protection." Our native birds are well known to nearly all the

BRIDGET, THE RUFFED GROUSE
Special pet of the Marsh Wren Club at Franklin, New York

members, not only by sight but by their songs as well. At present we are making a systematic study of the birds. Recently we studied the "Bills and Beaks" of birds. Our last meeting was given to the "Tongues of Birds." The material for this study was presented to our President by Dr. F. A. Lucas.

We have been made happy by the visits of several birds which are rare in

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this locality, among them a flock of Evening Grosbeaks and the Red-breasted Nuthatch. Last May a Red-faced Warbler was closely studied by two of our members. Study classes are well attended and many outings have been enjoyed by the Club. Bird-houses have been erected and many of our members have window-shelves for feeding winter birds. The accompanying photograph is that of a female Ruffed Grouse, which, through the kindness extended her by some wood-cutters, became very tame and has afforded us and other visitors many enjoyable experiences.—MARCIA B. HILLER, *Secretary.*

Hartford (Conn.) Bird-Study Club.—Our meetings have been carried on much as usual during the past year, although, owing to inclement winter weather and the increasing demands of war-work, the attendance at both indoor and field meetings has been somewhat smaller than in former years. Twenty-three indoor meetings have been held, including illustrated lectures by Dallas Lore Sharp, S. C. Chubb, and Dr. C. C. Beach, and seventeen field meetings. Among the many interesting birds seen on our field-trips, the Black Tern, Shoveller Duck, and Bonaparte Gull may be specially noted.

On May 25 the Club entertained the Connecticut Federation of Bird and Nature Clubs on the occasion of its first annual field meeting. Reports from the Clubs and a talk by Clinton G. Abbott filled the morning session, and after luncheon excursions were made to some of the city parks, that under the leadership of Mr. Abbott being particularly enjoyed. A Brewster Warbler was the *rara avis* of the day. The Chairmen of both our Educational and Sanctuary Committees are in the service, so that work along these lines has been necessarily deferred for a time, and as most of our members are giving much time to war activities, nothing new has been attempted. Our new Year Book has just been issued, and with the interesting program laid out we hope to keep alive interest in bird matters until the coming of happier and less strenuous days releases our time and energies for more progressive work.—(Miss) HELEN C. BECKWITH, *Corresponding Secretary.*

Kez-Hi-Kone (Conn.) Campfire Girls.—For four years the girls have studied birds with me on all our hikes and at our house meetings. We all have bird-houses and feeding-trays and bird-baths. We plant sunflowers and other things purposely for them. We sent our plea to Congress for the bird-protection bill as you requested, and heeded all other requests. Naturally we have seen some interesting bird-sights, and I think we are all glad that on our trip to and fro from Red Cross work and other war activities we can see a bird, possibly identify it at once, enjoy its beauty, be cheered by its song, and know what kind of a bird sings it.—MRS. C. L. BERGER, *Guardian.*

Los Angeles (Calif.) Audubon Society.—We have had a most satisfactory year. In the beginning we seemed to be threatened with a loss of members,

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due to outside, war, and other work. Our Membership Committee at once started such an efficient campaign that at the close our membership reached the highest mark in our history. We now have 88 paid members.

Another incentive to greater work was given by our President at the opening meeting in October, when she gave a stirring call to action, especially in the "war work" of protecting the "farmer's allies," the birds.

We have had nine interesting indoor meetings, with speakers from all parts of the country. Also nine field-days spent in fascinating cañons or on beaches, and at the same number of business meetings much has been accomplished relating to the needs of the Society.

BOARD OF MANAGERS OF THE LOS ANGELES AUDUBON SOCIETY

Some of our activities have been legislative work for Blackbirds and other so-called "destructive" species; preventing hunting licenses being issued to children; compiling the history of the Society for publication; causing the keeper of Silver Lake to lose his license for illegal shooting; having a beautiful and ornate bird-fountain, designed by a well-known Pasadena sculptor, erected in Exposition Park; purchasing a fine United States flag, to which allegiance is pledged anew at each indoor meeting. We also have a service flag containing thirteen stars. On Arbor Day we planted a vigorous young California Oak in Exposition Park, with appropriate ceremonies. We sent a written communication to the School Board, Park Commissioners and Playground Committee and suggested that bird-tables and drinking-pools be placed in the schoolgrounds, the same to be made and cared for by the children and supplied with crumbs and scraps from their lunches; this has met with hearty endorsement.

A War Committee was formed and a ten-dollar life membership campaign carried on in conjunction with it, with the result that ten life memberships were

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secured, the hundred dollars being used to purchase two Liberty Bonds. Our President has been appointed District Chairman of Bird-work, an honor we feel she justly deserves. She has given twenty-three addresses, using slides of her own photographs, and has represented our Society at the district and state federation conventions.

Our official speaker has answered requests from schools, clubs, and Boy Scout meetings, and has spoken mainly on bird-migration, birds in their economic relation and their domestic and esthetic values. Our library chairman has worked untiringly through the year, and her efforts have been rewarded for we now possess the nucleus for a good library. Our custodian has accumulated a valuable collection of government pamphlets, magazines, bird-nests, and the like.

Our press chairman has had the honor of having her fine article on "Hawks" printed in the Sunday magazine section of our leading newspaper. She has also conducted twenty-eight "trail-trips" through the year, these being in addition to our field-trips, and has taken Saturdays to accommodate school teachers who were desirous of studying the birds. Some of our members conducted a vigorous campaign during the holidays and again secured the largest annual Christmas bird census.

Our average attendance at indoor meetings has been 36, the largest being several hundred, at our Reciprocity Day, when the bird-fountain was dedicated. The largest field-day attendance was 101, at our annual "pilgrimage" to Fellowship Hill. We have had other large and enthusiastic field-days, those in winter having many eastern visitors.

The largest number of birds observed at any one field-day was forty-eight.—MRS. G. H. CRANE, *Corresponding Secretary.*

Maywood (Ill.) Bird Club.—The Club's second year was devoted principally to launching a nation-wide campaign against the stray and unrestrained cat, in the interest of bird-protection and food-conservation. A circular was issued in April, which was emphatically indorsed by eminent authorities. The Illinois Audubon Society is printing and distributing this document. The Detroit Zoölogical Society and the Florida Audubon Society have distributed 1,000 and 500 copies respectively. It has been sent to Audubon Societies, bird clubs, and individuals in the United States and Canada. No interested organization or person can allow to pass unheeded this golden opportunity to help win the war by eliminating the cat-menace to bird-life and food-supply.

Four Junior Audubon Classes, with an enrollment of 176 children, were organized. The school children, under the leadership of a Maywood Bird Club director and the auspices of the Maywood Twentieth Century (Woman's) Club, rendered excellently, on two occasions, before 1,800 persons, Ella Padon's bird masque, "Bobbie in Birdland." Letters were written to congressmen in behalf of the Migratory Bird Treaty Enabling Act and protesting against opening

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certain reservations to hunting and grazing. The reversal of an order to wardens to kill all Hawks and Crows in the forest preserve, Maywood vicinity, was secured through the efforts of the Club. President Harper has published a book, "Twelve Months with the Birds and Poets." Secretary Langdon was elected a director of the Illinois Audubon Society.

Last December, under the auspices of the Club, O. M. Schantz and Edward Hulsberg, bird whistler, gave an illustrated lecture entitled, "Birds and Food

ROY M. LANGDON
Secretary Maywood (Ill.) Bird Club

Conservation." The Club's honorary membership includes Charles B. Cory, Ruthven Deane, Ned Dearborn, Stephen A. Forbes, Benjamin T. Gault, Edward W. Nelson, Robert Ridgway, and Frank M. Woodruff, sons of Illinois who have contributed immeasureably to bird-lore. Maywood's constantly increasing interest in birds, evidenced by the extensive housing and feeding of birds and growing number of bird-baths, is assurance that the local work of the Club is permanently effective.—ROY M. LANGDON, *Secretary*.

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Meriden (N. H.) Bird Club.—All the regular activities of the Club have been carried on as usual during the past year. "Bird Sunday" was observed in the village for the fourth successive year, and the congregations of both churches, with many visitors, gathered in the Bird Sanctuary to hear Rev. Noble O. Bowlby preach a sermon on birds. We have had three lectures: "How to Have Bird Neighbors," by Mrs. S. Louise Patteson; "Wild Birds and How to Attract Them," and "Animals Used in Modern Warfare," both by Ernest Harold Baynes. We also had an entertainment by Miss Matthews, who sang folk-songs. In August we opened an exhibition of war posters, in charge of Mrs. Wilfred Barnes, a member of the Club.

The Secretary has kept in touch with the numerous bird clubs which have been founded through our influence, and our General Manager has organized sixty-four new clubs within the year. Most of these were established during a lecture tour in New York and New England. We have raised, chiefly by subscription, about $2,300 for the purpose of converting an old colonial house, standing in the Bird Sanctuary, into a museum of bird-conservation. Work on the building has been proceeding all summer under the direction of Miss Annie H. Duncan, a member of the Club, and will soon be completed.—(Miss) ELIZABETH F. BENNETT, *Secretary.*

Minneapolis (Minn.) Audubon Society.—During the past year the Society has continued to hold its regular meetings, although the attendance has been affected by the many pressing demands of war-work.

It has also maintained the Bird Museum—a permanent exhibition of bird-study materials opened in 1917. The Public Library Board has kindly given the use of two rooms in a fine fireproof Branch Library, where our collection of 500 mounted birds of the Northwest has been installed, together with a growing collection of model bird-houses, nests, eggs, charts and books, a Bausch & Lomb balopticon, and 50 slides relating to bird-life. With the Museum serving as a nucleus, we hope to stimulate more interest in birds among the people of our city. Junior Audubon Classes have been organized in about thirty of the public schools. A strong desire was felt for a bird-study class, but no leader was available during the winter months, so a specially welcome feature of last spring was a series of twenty lectures, illustrated with slides and films, on "The Bird," given to our members by Dr. T. S. Roberts, State Ornithologist and long-time bird-student.—GERTRUDE P. WICKS, *Secretary.*

Minnesota Game-Protective League.—We have not put forth any effort during the past year to increase our membership or start any new work, but have just done enough to keep the organization intact and to keep close watch on wild-life conditions so that no opening up of the laws will be brought about by those who would destroy the wild life with the excuse that, due to the war, the game-birds and animals could be made to supply the people with

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THE 'QUERCUS' BIRD-BATH, DESIGNED BY MRS. LOUIS SAINT-GAUDENS, AND PRESENTED TO THE MERIDEN (N. H.) BIRD CLUB BY HELEN FOSTER BARNETT

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an abundance of food. The State League convention, which was booked for St. Paul the last week of August, was canceled, due to war conditions which have taken hundreds of our members into the Government service. Although the convention was canceled, it does not mean that the League will go backward, but rather that it will hold its present position and use its powers during the 1919 session of the state legislature to bring about such changes as are thought necessary to better conserve and increase the wild life in the state.

Our investigations of the conditions of the various species of wild life in the state show that the Quail, which are found in the southern portions of the state, have come back in fine shape, due to weather conditions being in every way satisfactory this past year and the last winter not being a bad one in Minnesota. The cutting in half of the bag-limit and season by the last legislature has, of course, helped considerably in conserving the Quail. The Ruffed Grouse seem to have increased, the closed season, which started in 1917 for three years, having already produced results. Pinnated Grouse have shown a nice increase. Aquatic fowl, so far, do not seem as plentiful as last year, which is no doubt due to many of our best breeding- and feeding-grounds being dried up. However, no fairly accurate account can be made until the season is over.

The increase in upland birds can be credited to the following: Shorter seasons; smaller bag-limits; better law-enforcement; ideal weather conditions; and probably the most credit is due the game refuges, which now cover approximately 2,000,000 acres of land. The latter cause has without doubt saved the moose, as they are quite plentiful in the great Superior Refuge in northeastern Minnesota. Deer are quite plentiful. Briefly—game conditions in Minnesota are quite satisfactory. The game refuges and better control of the predatory species has not only helped the game, but has had a wonderful effect upon the song and insectivorous birds. Farmers in the refuge districts tell me that they lost less through the ravages of insects the past year than any previous year, due to the enormous increase in the insectivorous species.

Blackbirds, in some districts, destroyed an immense amount of corn this year, but I notice that there have apparently been more people that have eaten Blackbird potpie this past season than any previous time that I know about. As the deliciousness of this dish becomes better known, I feel that the Blackbirds will be brought down to the place, within a very few years, where they will do but very little damage. It has, of course, been fortunate that the Blackbird is not protected. The Minneapolis Branch of the League still maintains warden service on the refuges in this district, and is in about the same position as it was at this time last year, excepting that many of our best workers are now in the army.—FRANK D. BLAIR, *Secretary*.

Natural History Society of British Columbia (Can.).—As we do not hold meetings in the summer, it is rather hard to get hold of news from members until the fall meetings begin. However, J. R. Anderson has obtained from W. F.

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Burton, a member, the following notes made by him: At Oak Bay (suburb of Victoria), while watching an Audubon Warbler this season, in May, I was surprised to see an 'imported' Blue Tit fly at the bird I was watching and drive it away. Its actions made me think it was nesting nearby, and, after a careful search, I was delighted to find its nest in a hole in a dead fir tree. The place chosen for the nesting-site was a bad one for me, as the tree was alongside a heavy-foliaged tree, which made it difficult to watch the birds. I soon discovered, however, that the setting bird was a native Chickadee. I watched the pair of birds every few days until the young had flown, but had no chance to see if they showed any markings of the imported English Blue Tit. It would be interesting to know whether the progeny of these birds will breed in the future. The Dusky Horned Owls have been giving us great trouble here for the last two winters, and it seems they are to be here again this year, for I have already seen one and heard of others. I am told that there is a great scarcity of food up North, so we can expect them here where they will find plenty. In the last two years they have done much damage to game-birds, domestic fowls, and geese. Two cases have come to notice of domestic cats having been seized, one of which was dropped in the sea.

Purple Martins have been almost entirely driven away by the English Sparrows. Many pairs used to nest in this city, but only two cases are reported this season. With regard to the preservation of game, I might say that a Game Conservation Board has been formed, consisting of: The Curator of the Provincial Museum, ex officio Secretary, the Chief Game Inspector, and three members appointed by the Lieutenant Governor in Council. Administration of the Act is under the Superintendent of Provincial Police who is, *ex officio*, the Provincial Game-Warden, and all constables are ex-officio game-wardens.

Orders-in-Council were passed as follows: Willow Grouse, no open season in Western District (the Coast); sheep, no open season south of the main line of the Grand Trunk Pacific Railway. During 1918 the two lakes north of Victoria, namely Elk and Beaver Lakes, were created a bird sanctuary. And Mount Douglas Park, covering a small hill of that name, was made a game reserve. A. S. Barton reports large flocks of Band-tail Pigeons seen this fall at Salt Spring Island, where they were feeding largely on acorns.—HAROLD T. NATION, *Honorary Secretary*.

Neighborhood Nature Club (Conn.).—Our Club was formed about three years ago, by Miss Martha Banks, of Westport, to interest bird-lovers more deeply in winter feeding and protection and to increase the number of bird-protectors. The Club numbers about 30 and meets monthly for exchange of experiences with birds, for readings, and sometimes, as in May, 1918, for a delightful treat, such as an early breakfast with one of our Club members, followed by a wonderful walk in the woods where the birds seemed to welcome us by their willingness to sit and be watched for minutes at a time.

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Our President, Miss Martha Banks, passed on from this life in December, 1917, and we feel her loss keenly as a friend as well as a leader and teacher in this work which she had begun. We are trying to carry it on as best we may, and feel that these small soldiers of Uncle Sam, the birds, will most surely help to win the war. The Club has made a donation of $10 to the National Association of Audubon Societies, and our members aim to obtain new subscribers each year for membership in this and the National Association. A vote was taken at our last meeting for the Neighborhood Nature Club to become a sustaining member of the National Association.

When the need seemed apparent for supporting the Enabling Act for the protection of migratory birds, our members wrote to the state representative, asking his influence in passing this bill. The Club is planning a lecture, with lantern-slide views of birds, to be given soon, and, perhaps, before winter is past, a film at the local moving-picture house. So, in many ways, we hope to forward the work.—(Mrs.) H. P. BEERS, *Secretary-Treasurer*.

New Century (Utica, N. Y.) Club.—The New Century Club has responded to the requests of the National Association of Audubon Societies to further, as far as possible, right legislation for bird-protection. The Club posts on its bulletin board the leaflets the Association sends. Reports of birds seen and any interesting facts about birds are given at every meeting of the Science Department. We expect to continue the membership of the Club in the National Association.—ELIZABETH G. BROWN.

Oil City (Pa.) Audubon Club.—Our Society has not yet been organized a year, only since last spring, yet we feel that it has been very much worth while. We have twenty-six members, some of them very enthusiastic, several being especially well posted on bird-lore. At one meeting we took up the study of the migration of birds. This proved a most interesting session. Another time we enjoyed an evening with the stereopticon, showing the conservation of our forests and the important part taken by our birds in this very necessary work. Our May meeting was held in the woods, and a pocket-lunch was taken along so we could stay for the evening songs.—(Miss) HATTIE GOOLD, *Secretary*.

Pasadena (Calif.) Audubon Society.—Five meetings were held during the season, at one of which Prof. Alfred Cookman gave a talk on "Ten Days Observation on the Bird-Life of the Coronados Islands." These islands are three small mountain peaks in Mexican waters off the coast of Lower California. At another meeting, Prof. Charles L. Thompson read a paper entitled "The Lake of Lingering Death," the lake in question being La Brea, a curious oil-deposit near Los Angeles in which have been found countless remains of prehistoric animals and birds. At this meeting papers were also read by the President and Vice-President of the Los Angeles Audubon Society. The other

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three meetings were taken up by papers read by our own members, by lantern-slides of birds, with accompanying descriptions, by talks by Mrs. Harriet W. Myers, and by music.

Mainly through the generosity of the late Mrs. E. W. Brooks, we were enabled to donate $200 each to the California Audubon Society and the California Humane Association, to help forward legislative bills for bird- and animal-protection. The sum of $150 was contributed to the National Association of Audubon Societies in response to its appeal for funds. We trimmed a tree in Library Park as a bird Christmas tree, which we hope had an educational influence upon the public.—(Miss) FRANCES K. WALTER, *Secretary*.

Rhinebeck (N. Y.) Bird Club.—With its President and one of its Vice-Presidents in military service, its Treasurer a member of the Local Draft Board and County Fuel Administration, and its Secretary away from Rhinebeck in state conservation work, the activities of the Rhinebeck Bird Club have been somewhat curtailed during the past year. Since the last report in BIRD-LORE, the Club has held, besides its annual business meeting in December, two public lecture meetings. At the first, Capt. A. Radclyffe Dugmore, well known as an ornithologist in this country before he entered the British army, gave an illustrated war lecture. At the second, Warwick S. Carpenter, Secretary of the New York State Conservation Commission, told, with lantern-slides and motion-pictures, how New York state is conserving its wild life and other natural resources.

The membership in the Club, both junior and adult, has remained about the same, and Audubon work in the schools has received the same prominence as in previous years. The Club's sales of winter food for birds and of nesting boxes shows that interest in these subjects has not abated. A contest in spring-migration records was instituted in the schools, and the list which won the prize (Reed's Bird Guide) was made by a boy of thirteen who showed a very definite and accurate knowledge of birds. In the campaign for greater protection to the diminishing Ruffed Grouse, the Rhinebeck Bird Club submitted to the Conservation Commission a petition signed by some of its members, which, with similar petitions from other clubs, was instrumental in reducing the open season and bag-limit on Ruffed Grouse by one-half.

Rhinebeck is still a "bird village," even though the Bird Club's activities are, for the time being, somewhat overshadowed by more immediate war and Red Cross interests.—CLINTON G. ABBOTT, *Secretary*.

Rockaway (N. Y.) Bird Club.—From fall until late in the spring, the main activity of the Club was centered in keeping feeding-stations and drinking-fountains supplied and in persuading non-members to place such helps about their home-grounds. On April 30, Clinton G. Abbott, of the State Conservation Commission, gave the Club a most interesting lecture, illustrated by

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stereopticon views. On May 4, a number of our members made a pilgrimage to 'Slabsides' and had a delightful visit with John Burroughs. Our next meeting was a 'Burroughs Evening' with anecdotes and extracts from his writings, showing the various phases of his character and charm. Other papers prepared by members for our monthly meetings have been unusually interesting: 'National Forest Reservations,' 'National Bird Reservations,' 'Causes for Migration,' and many others covering a wide scope. Most of these were printed in our town papers, and the result has been to simulate local interest and public spirit.

So valuable have our 'bird-guessing contests' been that mention of them here may prove of use to other clubs. We borrow collections of about twenty-five specimens from the American Museum of Natural History, and each member writes the names of as many as known on a numbered list. The correct list is then read and unfamiliar birds looked up. Books are always at hand, and experienced members see that no query goes unnoticed. For one contest, Miss Broomall and Miss Prescott wrote a 'Conservation Story,' having various words identical with bird-names scattered throughout. Each member was given a copy with blanks for the bird-names, and the results were amusing as well as instructive. The Committee on Junior Clubs has been active, organizing new groups, holding bird-walks, and interesting the children, and through them the parents. Several motion-picture reels were borrowed from the State Conservation Commission and were shown at special children's matinees.

By far the most important event of the year has been the decision of Joseph S. Auerbach to convert Hewlett Bay Park into a bird sanctuary. Mr. Auerbach has become very much interested in the work of the Rockaway Bird Club and has authorized his lawyer to make a game- and bird-preserve of his entire estate, consisting of about 400 acres, the Club being invited to coöperate. The estate was thoroughly examined and notes made. Herbert K. Job, of the National Association, has consented to go over the tract and make suggestions as to its development. Mr. Auerbach's sanctuary, like that of Mrs. Lord's, reported last year, borders on the ocean. The severe winter killed thousands of Sparrows, many being found in the hedges in the spring, but with their usual tendency to overcome conditions, they are, so far as we can observe, as thick as ever.

The Heronry at Mrs. Lord's 'Sosiego' has flourished. There the Green Heron and the shy Black-crowned Night Heron find a paradise. At the slightest movement of the watcher, they rise from the woods in a huge flock and fly off over the salt marshes, uttering their coarse *quawk*. Although all of our members are working in some of the many war activities, and there are many demands upon the time of the most active ones, the Club has had a fair attendance at all of its meetings and enters upon its third year with bright prospects for future usefulness.—MARGARET S. GREEN, *Secretary*.

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Rumson (N. J.) Bird Club.—The Club has little to report in regard to its activities for the past year. A majority of our members have been so engrossed in war-work that they have not had much time to devote to the interests of their friends—the birds. We have merely tried to keep the organization intact, hoping that after the war we may resume our activities. We have had but few resignations and have a fair balance on hand. We defrayed the expenses of a lecture by E. H. Baynes, whose topic was "Wild Birds and How to Attract them." The lecture was held in the high school in the borough of Rumson and nearly every seat was filled. A Bird-House Contest was set on foot by the Club, and B. S. Bowdish was engaged to come to Rumson and prepare the way for the Contest. Five prizes were awarded. Ten or fifteen houses were constructed by the pupils of the schools. Annual subscriptions to BIRD-LORE were presented to each of the teachers in the borough.—JOHN B. LUNGER, *Secretary.*

St. Louis (Mo.) Bird Club.—During the year 1917–18 the following work was accomplished by our Club: Bird-lists for the months of April and May have been compiled for certain parks and suburbs of St. Louis and placed in the Public Library. Nesting-boxes, to the number of 900, approximately, built by pupils in the manual training departments of the public schools, were distributed and set up in the parks throughout the city. The Club now enjoys the privileges of membership in the National Association of Audubon Societies, the Audubon Society of Missouri, and the Missouri Fish and Game League. Literature from the United States Biological Survey, pertaining to birds, is received regularly and cared for in the Public Library. The collections of mounted birds in Washington University have been made available for study by members of the Club.

The Commissioner of Parks and Recreation, Nelson Cunliff, besides giving his cordial coöperation in many plans of the Club relating to the parks, has undertaken to develop a new addition to one of the parks as a bird sanctuary, in accordance with the plan and recommendations submitted by officers of the Bird Club. The tract comprises about 8 acres and is well located. The work of laying out and the making of a small lake is now under way. During the year, the following lectures were delivered: "Birds of St. Louis and Vicinity" (illustrated) by Ralph Hoffman, Headmaster of the St. Louis Country Day School; "Birds in the Nesting Season" (illustrated) by Ernest Harold Baynes. The latter was given before the Audubon Society of Missouri, the St. Louis Garden Club, and the Bird Club; "Federal Game Reservations" (motion-pictures), by Jack Miner, Kingsville, Ont., before the Missouri Fish and Game League. Bird-walks in the parks and suburbs were conducted during the spring. Membership is growing, especially the Junior list; several life members were added.—(Mrs.) KELTON E. WHITE, *Secretary.*

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Saratoga (N. Y.) Bird Club.—Our Club has met monthly throughout the last year. Readings have been given from Burroughs, Lowell, and Jefferies. A lecture by Ernest Harold Baynes at the Skidmore School of Arts (in collaboration with our Club) was a great treat. January brought us a letter from S. R. Ingersoll, of Balston Spar, who was in Florida, telling us of the southern birds. In April we had a paper on "Bird Day" by one of our local editors. One interesting evening was spent with the President of our Club, who showed us a collection of Thrushes which he had made. They were stuffed and so arranged that we could hold them and examine their beauty. July gave us "Bird Notes and Songs" through the medium of our hostess' victrola. Dr. Calvin S. May, of New York City, read a paper at our August meeting, and a collection of the following birds' nests which the hostess had found were shown: Goldfinch, Baltimore Oriole, Orchard Oriole, Vireo, and Marsh Wren. One of our great subjects has been "Moulting and Migration." We have planned to have a "hike" several times, but it is still to be, owing to the "unpropitious elements."—(Miss) CAROLINE C. WALBRIDGE, *Secretary.*

Seattle (Wash.) Audubon Society.—In spite of the war and a resultant decrease in the number of our active members, we feel that we have accomplished more for the birds during this year than in any other year of our organized history. Reënforced by Mr. Forbush's cat bulletin and various other agencies, the Seattle City Council was persuaded to pass a Cat License Ordinance. This will greatly decrease the destruction of bird-life within the city limits.

The Park Board has given us permission to use Seward Park for a bird sanctuary. This is situated on the shores of Lake Washington and is admirably adapted for such a purpose. We have posted nearly 1,000 of the National Association's "War" posters and have distributed 500 bird leaflets and 150 cat bulletins. Two large Junior Audubon Societies have been established at branch libraries, and plans have been made to increase this number. The coöperation of the Boy Scouts, who are Junior Game Wardens, helps greatly in this work. Bird-talks to both children and parents have been given in our public schools. We find the museum of the State University very generous in furnishing material for these lectures. Coöperating with the sportsmen, we are working to secure additional laws for bird-protection at the coming session of the Legislature. We are determined that our Society's slogan, "Bird-Protection Means Food-Conservation," shall bring increasingly good results next year.—(Miss) MAYME FARRAR, *Corresponding Secretary.*

South Bend (Ind.) Humane Society.—The report of the year shows that we gave three awards for evidence which convicted of the killing of birds. During the summer we kept a standing advertisement in our daily papers, offering a reward of $5 for information which would convict of the killing of

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birds. Thirty-nine members of our police force and twenty-seven of the mail carriers' association of this city have signed the Humane Pledge and are ever on the alert to report violations of the bird-law. We have a standing offer with the police and postal service of $2 for information which shall convict. These awards we pay into their pension fund. The Secretary has shown stereopticon views of the birds in a number of the public schools.—H. A. PERSHING, *Secretary*.

South Haven (Mich.) Bird Club.—One year ago we, a little club of 36 members, were quite proud of our little selves and the progress we had made during our little life of one year. Now we are two years old, but instead of our growing better as we grow older, the weight of cares seems almost to have crushed us. Still we live! Have dropped from a membership of 36 to that of 25, but hope to climb up again some day. We did give another bird-program at "The Scott Club," a local literary club. May 21, sixteen ladies spent the day in the woods near a small stream and identified fifty-five species of birds.

Last year there were quite a number of books on birds added to those already in the local Public Library. This year the librarian reports no interest in the subject. So far we have not succeeded in securing an ordinance for the control of stray cats.—(Miss) FLORENCE L. GREGORY, *Secretary*.

Spokane (Wash.) Bird Club.—The annual business meeting of the Club occurs on the first Tuesday in January. Our activities for the year may be said properly to begin on that date. About that time, too, after a short spell of exceeding quietness in birddom, the winter birds from the Arctic prairies and Alaska commence to arrive in earnest, impelled by increasing cold and greater snowfall. As many as 3,000 Bohemian Waxwings, it has been estimated, have been seen at one time, cleaning up the mountain-ash and other winter berries within the confines of a couple of city blocks. These were accompanied by predatory Hawks, decimating their ranks like wolves around a caribou herd on the prairies of the North.

By the middle of March, with the commencement of nest-building in the pine woods, field-trips were arranged and undertaken. Pine Siskins were seen building on March 13, and a few weeks later they were sitting on eggs. These field-trips were taken periodically until the middle of June, every week or two, when our activities as a club ceased until the first club meeting on September 17. Individual members, however, carried on their pursuit of bird knowledge and fresh experiences during the summer months. Many new and interesting notes and photographs were taken in this vicinity for tales and lantern-slides during the coming winter. There will be three or four lantern-slide exhibitions during the next few months by members of the Club. Several hundred slides are already prepared, mostly by the writer, and future entertainments of this sort are looked forward to with keen interest and anticipa-

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tion. One of the most instructive of these field-trips was taken on May 12, to Meadow Lake, 16 miles from Spokane by electric car. This trip was selected on account of a current report that Yellow-headed Blackbirds were in this neighborhood in large colonies, a statement we fully verified. Photographs of Mallard, Coot and Killdeer nests and eggs were taken, also half a dozen nests, more or less completed, of a single pair of Marsh Wrens which had not yet set up housekeeping. But young water-fowl, swimming with their parents in the open water of the lakes, showed that other species had not been idle. Forty-seven species of birds were observed.

I could recount many other summer experiences of bird-life in the woods and by field and stream, but the space allotted for this article forbids. I shall conclude by merely saying that we renewed our Club gatherings on September 17, when we listened, among other interesting things, to a paper by Thomas A. Bonser, of the high school, on the various tame and wild shrubs and plants and their berries in this region known to be favorite food of the winter birds. Our meetings occur twice a month, on the first and third Tuesdays, and, at the next meeting on October 15, the writer will give a lecture on the habits and activities of birds during the nesting-season, illustrated by lantern-slides made by himself from his own photographs taken during the past summer in the woods.—WALTER BRUCE, *President.*

Sussex County (N. J.) Nature Study Club.—During the year our members have been doing their "bit" in war-work, yet interest in nature-study has been sustained. As usual, our meetings have been held once each month, the attendance comparing favorably with other years. We are not strictly a bird club, but the birds receive their full share, and more, of our attention and care. One of the most pleasant meetings of the year was our "Warbler-time" picnic. Our special reward was a closer acquaintance with the worm-eating Warbler, which we have always considered rare in our section, and whose song we learned for the first time that day. A very fine view of the White-crowned Sparrow also added excitement to our hunt.

Our frequent articles in the county papers keep the public more or less interested in our Club and its activities. We have responded to all appeals for legislative assistance from the National Association of Audubon Societies and the State Audubon Society.—F. BLANCHE HILL, *Secretary.*

Vigo County (Ind.) Bird Club.—A greater effort toward bird-protection was evident in the second year's work of the Vigo County Bird Club, for, while excellent papers were read and talks given at each of its monthly meetings, more plans were made to protect birds in the vicinity of Terre Haute than had been attempted during its first year's existence. Posters were distributed, the aid of the Junior Bird Clubs enlisted, and the coöperation of the Park Superintendent secured. An interest in birds among children has been

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fostered, the result being a number of Junior Audubon Clubs whose members are eagerly doing all they can to save the birds. One Junior Club has secured signed pledges from farmers to protect birds and designate their farms as "bird sanctuaries." Over 600 acres have been so pledged by the farmers. Numerous bird-houses all over the city attest to the fact that the Club has awakened an interest in birds never before known, except by a very small percentage of the town dwellers.—MRS. JOHN T. LATSHAW, *Secretary*.

Washington (Ind.) Audubon Society.—Our Society, formerly named "The Bird Lovers Club," closed a very successful year's work on June 21, 1918. This was our second year, and while there was not so large a membership, owing to war conditions, the members, who numbered thirty active and associate, were much interested and enjoyed some fine meetings. A social meeting held at the home of the President, Mrs. Cameron Hyatt, in October, started the year's work. Eight regular meetings, with programs, were held during the year, on the third Tuesday of each month.

J. N. Barber, Junior Superintendent, conducted a large and flourishing Junior Club during the year. In March, the senior Society held a successful Bird-House Building Contest, with the boxes shown in a downtown show-window, and prizes were awarded. A number of interesting field-trips were taken, and much was learned about birds. Mr. and Mrs. Charles Feagans entertained the Club in July with a pleasant social evening at their beautiful suburban home.—CAMERON HYATT, *Corresponding Secretary*.

Watertown (N. Y.) Bird Club.—During the year we held seven regular meetings and one social meeting. Mrs. George W. Knowlton opened her home for the September meeting. E. J. Sawyer gave a most interesting and instructive lecture on "Bird-migration," illustrating his talk by numerous charts which he had prepared for the occasion. In February the Club met with Mrs. E. P. Elitharp for a social evening, the program being in charge of Mrs. Everett Rogers. Great hilarity was aroused by the extemporaneous bird-drawings made by each member and named by his left-hand neighbor. Miss Antoinette Rogers directed the members in the art of folding paper in bird-forms.

At the April meeting, P. B. Hudson, our Vice-President, exhibited and explained a very complete collection of birds' eggs which he has been collecting since his boyhood days. At the May meeting each member submitted a short description of his favorite bird, following a suggestive outline prepared by Mr. Sawyer.

At the June meeting, F. S. Tisdale, the Club President, and superintendent of our city schools, gave an illustrated lecture on water-birds. The slides were procured from Albany. As Mr. Tisdale is an ardent sportsman, he was able to interpolate many interesting personal reminiscences in connection with the birds shown. This meeting was thrown open to the grammar-school children.

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A donation of $10 was made to the local chapter of the Red Cross. It was voted to have a Martin-house constructed and erected upon the grounds of the Flower Memorial Library, in an effort to conserve to Watertown its valuable Martin colony. Twenty-five of the Sawyer "Bird Books" were presented to the High School Library for the use of the biology class. The Bird Club feels that the success of its year's work was largely due to the interest and devotion of its President, F. S. Tisdale, who, in spite of many and varied interests, has given unstintedly of his time and energy in support of the Bird Club. The Secretary-elect is Miss Grace B. Nott.—NINA BALLARD ELITHARP, *Secretary*.

Wellesley College (Mass.) Bird Club.—The activities of the Club for the year have consisted in measures for stimulating interest in bird-study and conservation. Meetings have been held throughout the year to discuss topics of interest, bird-walks have been directed through the spring, and prizes have been offered for the best lists of birds observed. In March, Winthrop Packard gave the Club an illustrated talk on "Wild Bird Friends." On the conservation side, the birds have been fed through the winter, and the nesting-boxes have been kept in order. Forty per cent of the boxes were occupied during the season of 1918. As a result of the severe winter, only one English Sparrow was found nesting in the boxes. A Crested Flycatcher, for the first time, occupied one of them. Tree Swallows' nests have increased, and those of Bluebirds have decreased since the previous year. Owing to the war-needs, the Club has made no permanent gift this year toward conservation.—(Miss) MADELINE E. ALMY, *Secretary*.

Wild-Life Protective Society (Wis.)—During the twelve months ending October 1, 1918, the activities of the Society were aimed at objects different from preceding years. Owing to the press of all kinds of war-work, it was impossible to conduct our school bird-club program as previously hoped. Junior Red Cross work in the schools crowded out all new work, and all we could do was to try and keep Clubs organized the previous year from going out of existence.

In the meantime, we were able to give considerable attention to the Wisconsin Game Protective Association, an incorporated league of sportsmen, rod and gun clubs, and conservation societies, for the protection of wild life, and we have furthered, as far as possible, the Association's plan of employing a paid field secretary to canvass the state, to organize clubs and secure them as members of the Association, and to arouse old organizations. We succeeded in raising considerable money here in addition to the $500 donated by the National Association of Audubon Societies, and our members have given time and effort to help the work along. We now have the satisfaction of knowing that a capable fieldman has been at work since the latter part of March and has been successful in reawakening interest and in inducing people to subscribe

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for the work. We are keeping up our small bird refuge but have no definite report on it to offer.—CLARENCE J. ALLEN, *Acting Secretary.*

WHITE-BREASTED NUTHATCH ON FOOD-STICK EATING SUET. WYNCOTE (PA.) BIRD CLUB

Wyncote (Pa.) Bird Club. —We have passed another successful year, although not so much has been accomplished as usual, because the war has claimed so much of our time and energies. Our two most notable lectures of the year have been by Mrs. S. Louise Pattison, who gave us a most delightful illustrated talk on "The Birds, Our Allies in the Food Campaign," and by George B. Kaiser, who lectured on "Our Native Wild Flowers," illustrated by the exquisite colored slides of the Pennsylvania State Museum.

We held the usual frequent spring bird-walks and summer picnics, and in September the Club went by an automobile truck to visit the Philadelphia Zoölogical Gardens. A good many Wren and Blue-bird houses were made and erected, and some were occupied. Feeding in individual gardens was continued, but little feeding in the woods and outlying districts was done, because our President, E. H. Parry, who has heretofore done most of this, is now in the army.—(Miss) ESTHER HEACOCK. *Secretary.*

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STATE AUDUBON SOCIETIES AFFILIATED WITH THE NATIONAL ASSOCIATION

CALIFORNIA AUDUBON SOCIETY:
President, Dr. David Starr Jordan, Stanford University, Palo Alto.
Secretary, Mrs. Harriet W. Myers, 311 North Ave. 66, Los Angeles.

COLORADO AUDUBON SOCIETY:
President, Edward R. Warren, 20 West Caramillo St., Colorado Springs.
Secretary, C. S. Robbins, 1903 Alamo Ave., Colorado Springs.

CONNECTICUT AUDUBON SOCIETY:
President, Mrs. Mabel Osgood Wright, Fairfield.
Secretary, Mrs. William B. Glover, Fairfield.

DISTRICT OF COLUMBIA AUDUBON SOCIETY:
President, Hon. Job Barnard, 1306 Rhode Island Ave., Washington.
Secretary, Miss Helen P. Childs, Chevy Chase, Md.

FLORIDA AUDUBON SOCIETY:
President, Dr. W. F. Blackman, Winter Park.
Secretary, W. Scott Way, Winter Park.

ILLINOIS AUDUBON SOCIETY:
President, O. M. Schantz, 10 South La Salle St., Chicago.
Secretary, Mrs. F. H. Pattee, 2436 Prairie Ave., Evanston.

INDIANA AUDUBON SOCIETY:
President, Prof. Stanley Coulter, Lafayette.
Secretary, Miss Elizabeth Downhour, 2307 Talbott Ave., Indianapolis.

KENTUCKY AUDUBON SOCIETY:
President, Miss Isabel Clay, 445 West Third St., Lexington.
Secretary, Victor K. Dodge, 173 Bell Court West, Lexington.

MARYLAND AUDUBON SOCIETY:
President,
Secretary, Miss Minna D. Starr, 2400 North Charles St., Baltimore.

MASSACHUSETTS AUDUBON SOCIETY:
President, Edward Howe Forbush, 136 State House, Boston.
Secretary, Winthrop Packard, 66 Newbury St., Boston.

MICHIGAN AUDUBON SOCIETY:
President, Mrs. Edith C. Munger, Hart.
Secretary, Miss Gertrude Reading, Hart.

MISSOURI AUDUBON SOCIETY:
President, Dr. Herman von Schrenk, St. Louis.
Secretary, Dr. Robert J. Terry, 5315 Delmar Ave., St. Louis.

NEW HAMPSHIRE AUDUBON SOCIETY:
President, Gen. Elbert Wheeler, Nashua.
Secretary, Manley B. Townsend, 9 Mt. Pleasant St., Nashua.

NEW JERSEY AUDUBON SOCIETY:
President, Clarence B. Riker, South Orange.
Secretary, Beecher S. Bowdish, 164 Market St., Newark.

NORTH CAROLINA AUDUBON SOCIETY:
President, Dr. R. H. Lewis, Raleigh.
Secretary, Placide C. Underwood, Raleigh.

NORTH DAKOTA AUDUBON SOCIETY:
President, Daniel Freeman, Fargo College, Fargo.
Secretary, O. A. Stevens, Agricultural College, Fargo.

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OHIO AUDUBON SOCIETY:
President, Dr. Robert C. Jones, 2373 Park Ave., Cincinnati.
Secretary, Prof. Wm. G. Cramer, Woodward High School, Cincinnati.
OREGON AUDUBON SOCIETY:
President, Wm. L. Finley, 651 East Madison St., Portland.
Secretary, Dr. Emma J. Welty, 321 Montgomery St., Portland.
PENNSYLVANIA AUDUBON SOCIETY:
President, Witmer Stone, Academy of Natural Sciences, Philadelphia.
Secretary, Miss Elizabeth Wilson Fisher, 2222 Spruce St., Philadelphia.
RHODE ISLAND AUDUBON SOCIETY:
President, Dr. H. E. Walter, Brown University, Providence.
Secretary, H. L. Madison, Park Museum, Providence.
SOUTH CAROLINA AUDUBON SOCIETY:
President, Dr. A. C. Moore, Columbia.
Secretary, Miss Belle Williams, Columbia.
TENNESSEE (EAST) AUDUBON SOCIETY:
President, Rev. Angus McDonald, 1322 Tremont St., Knoxville.
Secretary, Miss Magnolia Woodward, Chestnut Hill, Knoxville.
WEST VIRGINIA AUDUBON SOCIETY:
President, Miss Bertha E. White, 1609 Latrobe St., Parkersburg.
Secretary, Walter Donaghho, Emerson Ave., Parkersburg.

CLUBS AND OTHER ORGANIZATIONS AFFILIATED WITH THE NATIONAL ASSOCIATION

BIRD CONSERVATION CLUB (BANGOR, MAINE):
President, Mrs. J. C. Buzzell, 11 Hudson St., Bangor, Maine.
Secretary, Miss Alice Brown, Conit St., Bangor, Maine.
BLAIR COUNTY (PA.) GAME, FISH AND FORESTRY ASSOCIATION:
President, John H. Winters, 1609 Eleventh Ave., Altoona, Pa.
Secretary, Dick Heverly, 1609 Eleventh Ave., Altoona, Pa.
BRITISH COLUMBIA (CANADA) NATURAL HISTORY SOCIETY:
President, Hon. A. R. Sherwood, 410 Jones Block, Victoria, B. C., Canada.
Secretary, Hon. J. R. Anderson, 410 Jones Block, Victoria, B. C., Canada.
BRONXVILLE (N. Y.) BIRD CLUB:
President, Roy C. Andrews, Bronxville, N. Y.
Secretary,
BROOKLINE (MASS.) BIRD CLUB:
President, Dr. J. B. Brainerd, 57 Monmouth St., Brookline, Mass.
Secretary, Mrs. George W. Kaan, 162 Aspinwall Ave., Brookline, Mass.
BROOKLYN (N. Y.) BIRD LOVERS' CLUB:
President, L. F. Bowdish, 903 E. 35th St., Brooklyn, N. Y.
Secretary, Howard Whitlock. 448 E. Twenty-sixth St., Brooklyn, N. Y.
BUDD LAKE (N. J.) NATURE STUDY CLUB:
President, Miss Amy R. Brown, 257 Ridge St., Newark, N. J.
Secretary, Mrs. Martin L. Cox, 320 Clifton Ave., Newark, N. J.
BUFFALO (N. Y.) AUDUBON SOCIETY:
President, Dr. C. E. Beach, 236 Herkimer St., Buffalo, N. Y.
Secretary, Miss Caroline L. Doll, 387 Ellicott St., Buffalo, N. Y.
BURROUGHS-AUDUBON NATURE STUDY CLUB OF ROCHESTER (N. Y.):
President, Wm. B. Hoot, 203 Monroe Ave., Rochester, N. Y.
Secretary, Clinton E. Kellogg, 76 Gorseline St., Rochester, N. Y.

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BURROUGHS JUNIOR AUDUBON SOCIETY (KINGSTON, N. Y.):
President, Miss Ruth Scott, Kingston High School, Kingston, N. Y.
Secretary, Miss Elizabeth Richards, Kingston High School, Kingston, N. Y.

CAYUGA BIRD CLUB (ITHACA, N. Y.):
President, L. A. Fuertes, Ithaca, N. Y.
Secretary, A. A. Allen, McGraw Hall, Ithaca, N. Y.

CIVIC LEAGUE (SAGINAW, MICH.):
President,
Secretary, Miss May Turner, 1702 Court St., Saginaw, Mich.

CLEVELAND (OHIO) BIRD LOVERS' ASSOCIATION:
President, Mrs. E. C. T. Miller, 1010 Euclid Ave., Cleveland, Ohio.
Secretary, Mrs. William G. Pollock, 1010 Euclid Ave., Cleveland, Ohio.

COCOANUT GROVE (FLA.) AUDUBON SOCIETY:
President, Mrs. Kirk Munroe, Cocoanut Grove, Fla.
Secretary, Mrs. Florence P. Haden, Cocoanut Grove, Fla.

COLORADO MUSEUM OF NATURAL HISTORY (DENVER, COLO.):
President, Frank M. Taylor, Colorado Museum of Natural History, Denver, Col.
Secretary, P. M. Cooke, Colorado Museum of Natural History, Denver, Colo.

COLUMBIA (S. C.) BIRD CLUB:
President, Prof. A. C. Moore, Columbia, S. C.
Secretary, Miss Mary Carr, Columbia, S. C.

COLUMBUS (OHIO) AUDUBON SOCIETY:
President, Prof. C. Hambleton, Columbus, Ohio.
Secretary, Miss Lucy B. Stone, 533 Franklin Ave., Columbus, Ohio.

CUMBERLAND COUNTY (MAINE) AUDUBON SOCIETY:
President,
Secretary, Amy B. Baker, 199 High St., Portland, Maine.

DANVILLE (ILL.) BIRD CLUB:
President,
Secretary, Mrs. T. W. Elliott, Hawthorne Place, Danville, Ill.

DELTA DUCK CLUB (NEW ORLEANS, LA.):
President, John Dymond, Jr., 1005 Maison Blanche Bldg., New Orleans, La.
Secretary, C. A. Burthe, Cottam Block, New Orleans, La.

DETROIT (MICH.) AUDUBON SOCIETY:
President, Chas. W. Bear, People's State Bank, Detroit, Mich.
Secretary, Ralph Beebe,

DETROIT (MICH.) BIRD PROTECTING CLUB:
President, Mrs. J. D. Harmes, 332 Hamilton Ave., Detroit, Mich.
Secretary, Miss Agnes Sherman, 572 E. Lavin Ave., Detroit, Mich.

DETROIT (MICH.) ZOOLOGICAL SOCIETY:
President, Edwin Denby, Dime Bank Building, Detroit, Mich.
Secretary, Richard, E. Follett, Dime Bank Building, Detroit, Mich.

DOYLESTOWN (PA.) NATURE CLUB:
President, Mrs. I. M. James, Doylestown, Pa.
Secretary, Mrs. Thomas Haddon, Doylestown, Pa.

DUBOIS (PA.) BIRD CLUB:
President, W. D. I. Arnold, 208 South Brady St., DuBois, Pa.
Secretary,

ELGIN (ILL.) AUDUBON SOCIETY:
President, B. E. Berryman, Elgin, Ill.
Secretary, Charlotte Weatherill, 255 Villa St., Elgin, Ill.

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ENGLEWOOD (N. J.) BIRD CLUB:
President, Robert S. Lemmon, Englewood, N. J.
Secretary, Miss Elizabeth A. Dana, Englewood, N. J.
ERASMUS HALL AUDUBON BIRD CLUB (FLATBUSH AVE., ERASMUS HALL HIGH SCHOOL BROOKLYN, N. Y.):
President, Joseph McGoldrich, Erasmus Hall High School, Brooklyn, N. Y.
Secretary, Miss Grace Seeling, Erasmus Hall High School, Brooklyn, N. Y.
EVANSVILLE (IND.) AUDUBON SOCIETY:
President, George S. Clifford, Evansville, Ind.
Secretary, Miss Edith O. Trimble, 1040 South Second St., Evansville, Ind.
FITCHBURG (MASS.) OUTDOOR CLUB:
President, Miss Margaret W. Fosdick, 128 Prichard St., Fitchburg, Mass.
Secretary, Miss Grace F. Barnes, 59 School St., Fitchburg, Mass.
FOREST HILLS GARDENS (N. Y.) AUDUBON SOCIETY:
President, Fritz Hagen, 54 Slocum Crescent, Forest Hills, N. Y.
Secretary, Miss Mary E. Knevels, Forest Hills, N. Y.
FORT SMITH (ARK.) AUDUBON SOCIETY:
President, Dr. C. E. Laws, 803 Garrison Ave., Fort Smith, Ark.
Secretary, Rev. Edward Wilcox, Fort Smith, Ark.
FRANKFORT (KY.) BIRD CLUB:
President, Rev. John J. Gravatt, cor. Broadway and Washington St., Frankfort, Ky.
Secretary, H. G. Bright, 208 Campbell St., Frankfort, Ky.
FRANKLIN (N. Y.) MARSH WREN CLUB:
President, Edson C. Stewart, Franklin, N. Y.
Secretary, Mrs. Marcia B. Hiller, Franklin, N. Y.
GARDEN CLUB OF EVANSTON (ILL.):
President, Mrs. W. E. Nichols, 1307 Ridge Ave., Evanston, Ill.
Secretary,
GLENS FALLS (N. Y.) LOCAL BIRD CLUB:
President,
Secretary, Mrs. M. S. Potter, 169 Ridge St., Glens Falls, N. Y.
GLENVILLE (W. VA.) NORMAL BIRD CLUB:
President, Edgar Hatfield, Glenville, W. Va.
Secretary, Miss Pansy Starr, Glenville, W. Va.
GROTON (MASS.) BIRD CLUB:
President, Rev. Charles B. Ames, Groton, Mass.
Secretary, Mrs. William P. Wharton, Groton, Mass.
HARDY GARDEN CLUB (RUXTON, MD.):
President,
Secretary, Mrs. John Love, Riderwood, Md.
HARTFORD (CONN.) BIRD STUDY CLUB:
President, A. J. Moody, 469 Farmington Ave., Hartford, Conn.
Secretary, Miss Irma R. Meigs, 26 Huntington St., Hartford, Conn.
IRWIN (PA.) AUDUBON SOCIETY:
President, R. T. McCormick, Irwin, Pa.
Secretary, Bert H. Rylander, Irwin, Pa.
INDIANA AUDUBON BIRD CLUB (ANDERSON, IND.):
President,
Treasurer, S. R. Dunbar, Anderson, Ind.
KEZ-HI-KONE CAMP FIRE GIRLS:
President,
Secretary, Miss Jean Grumman, 165 Meadow St., Naugatuck, Conn.

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LAKE PLACID (N. Y.) CLUB:
President, Melvil Dewey, Lake Placid, N. Y.
Secretary, Godfrey Dewey, Lake Placid, N. Y.

LITTLE LAKE CLUB (402 HENNEN BLDG., NEW ORLEANS, LA.):
President,
Secretary,

LONG ISLAND (N. Y.) BIRD CLUB:
President, Col. Theodore Roosevelt, Oyster Bay, N.Y.
Secretary, Mrs. E. M. Townsend, Townsend Place, Oyster Bay, N. Y.

LOS ANGELES (CALIF.) AUDUBON SOCIETY:
President, Mrs. F. T. Bicknell, 319 South Normandie Ave., Los Angeles, Calif.
Secretary, Mrs. George H. Crane, 1217 West Santa Barbara St., Los Angeles, Calif.

MANITOWOC COUNTY (WIS.) FISH AND GAME PROTECTIVE ASSOCIATION:
President, E. L. Kelley, Dempsey Building, Manitowoc, Wis.
Secretary, Fred Carus, 1402 Washington St., Manitowoc, Wis.

MAYWOOD (ILL.) BIRD CLUB:
President, Samuel A. Harper, 220 South State St., Chicago Ill.,
Secretary, Roy M. Langdon, 709 North Third Ave., Maywood, Ill.

MERIDEN (CONN.) BIRD CLUB:
President, Judge Frank L. Fay, 591 Broad St., Meriden, Conn.
Secretary, Mrs. W. C. Homan, 168 Curtis St., Meriden, Conn.

MERIDEN (N. H.) BIRD CLUB:
President, Dr. Ernest L. Huse, Meriden, N. H.
Secretary, Miss Elizabeth F. Bennett, Meriden, N. H.

MIAMI (FLA.) AUDUBON SOCIETY:
President,
Secretary, Mrs. W. H. McIntyre, 1409 Ave. C, Miami, Fla.

MILLBROOK (N. Y.) GARDEN CLUB:
President, Mrs. Oakleigh Thorne, Millbrook, N. Y.
Secretary, Miss Katherine Wodell, Millbrook, N. Y.

MINNEAPOLIS (MINN.) AUDUBON SOCIETY:
President, Mrs. Phelps Wyman, 5017 Third Ave. S., Minneapolis, Minn.
Secretary, Mrs. Judson L. Wicks, Fourth Avenue Library, Minneapolis.

MINNESOTA GAME PROTECTIVE LEAGUE:
President, C. N. Odell, N. W. National Life Building, Minneapolis, Minn.
Secretary, Frank D. Blair, Room 26, Court House, Minneapolis, Minn.

MISS HATTIE AUDUBON SOCIETY (LOUISVILLE, KY.):
President, Mrs. Pierce Butler, 1303 First St., Louisville, Ky.
Secretary, Miss Adrienne Thum, 1236 Garvier Place, Louisville, Ky.

MISSOULA (MONT.) BIRD CLUB:
President,
Secretary, Miss C. Wells, 233 East Pine St., Missoula, Mont.

NEIGHBORHOOD NATURE CLUB (SOUTHPORT, CONN.):
President, Miss Elizabeth H. Banks, Westport, Conn.
Secretary, Mrs. H. P. Beers, Southport, Conn.

NEW BEDFORD (MASS.) BIRD CLUB:
President, Miss Edith F. Walker, High School, New Bedford, Mass.
Secretary.

NEW BEDFORD (MASS.) WOMAN'S CLUB:
President, Mrs. T. F. Tillinghast, 37 Eighth St., New Bedford, Mass.
Secretary, Miss E. B. France, 174 Mt. Pleasant St., New Bedford, Mass.

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NEWBURYPORT (MASS.) BIRD CLUB:
President, Miss Harriot W. Colman, 14 Harris St., Newburyport, Mass.
Secretary, Mrs. Wm. C. Moore, 186 High St., Newburyport, Mass.

NEW YORK BIRD AND TREE CLUB:
President, Mrs. Robert A. Miller, 17 West Forty-fifth St., New York City.
Secretary, Miss Henrietta O. Jones, 230 W. 105th St., New York City.

NORRISTOWN (PA.) AUDUBON CLUB:
President, Willis R. Roberts, 800 DeKalb St., Norristown, Pa.
Secretary, Miss Helen A. Bomburger, 556 Stonebridge St., Norristown, Pa.

NORTH EAST (PA.) NATURE STUDY CLUB:
President, N. S. Woodruff, North Pearl St., North East, Pa.
Secretary, Miss Alice Moorehead, 55 Gibson St., North East, Pa.

OIL CITY (PA.) AUDUBON CLUB:
President, Miss Grace Robinson, 304 Orange St., Oil City, Pa.
Secretary, Miss Hattie Goold, 106 W. First St., Oil City, Pa.

OSCEOLA (WIS.) FIELD CLUB:
President, Mrs. Jane A. Hansen, Osceola, Wisc.
Secretary, Mrs. Grace P. Bloom, Osceola, Wisc.

PACIFIC AUDUBON ASSOCIATION (SAN FRANCISCO, CALIF.):
President, C. B. Lastreto, 260 California St., San Francisco, Calif.
Secretary, W. A. Squires, 3852 23d St., San Francisco, Calif.

PASADENA (CALIF.) AUDUBON SOCIETY:
President, Dr. Garrett Newkirk, Pasadena, Calif.
Secretary, Miss Frances K. Walters, 1085 North Raymond Ave., Pasadena, Calif.

PEORIA (ILL.) AUDUBON SOCIETY:
President,
Secretary, Miss Minnie M. Clark, 514 Western Ave., Peoria, Ill.

PHILERGIANS (THE):
President, Mrs. Walter A. Poore, 94 Liberty St., East Braintree, Mass.
Secretary, Mrs. Winthrop T. Case, 140 Adams St., Braintree, Mass.

PORT HURON (MICH.) BIRD CLUB:
President, S. J. Watts, Port Huron, Mich.
Secretary, Mrs. John Gaines, 2638 Stone St., Port Huron, Mich.

RACINE (WIS.) BIRD CLUB:
President,
Secretary, Miss Louise M. Collier, 1308 Main St., Racine, Wis.

RANDOLPH BIRD CLUB OF WESTFIELD (N. Y.):
President, Mrs. J. H. Kinney, Westfield, N. Y.
Secretary, Miss Clara W. Koepka, Westfield, N. Y.

RESOLUTE CIRCLE OF THE KING'S DAUGHTERS (IVORYTON, CONN.):
President, Mrs. Elizabeth Rathburn, Ivoryton, Conn.
Secretary, Mrs. L. Behrens, Ivoryton, Conn.

RHINEBECK (N. Y.) BIRD CLUB:
President, Maunsell S. Crosby, Rhinebeck, N. Y.
Secretary, Clinton G. Abbott, P. O. Box E, Rhinebeck, N. Y.

RICHMOND (KY.) BIRD CLUB:
President, Mrs. Robert R. Burnam, 252 The Summit, Richmond, Ky.
Secretary, Miss Bessie Dudley, Water St., Richmond, Ky.

ROCKAWAY (N. Y.) BRANCH OF THE NATIONAL AUDUBON SOCIETY:
President, Arthur Cooper, 7 Lockwood Ave., Far Rockaway, N. Y.
Secretary, Miss Margaret S. Green, Cornage Ave., Far Rockaway, N. Y.

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ROCK ISLAND COUNTY (ILL.) BIRD CLUB:
President, P. S. McGlynn, Moline, Ill.
Secretary, Miss Nellie E. Peetz, Rock Island, Ill.

RUMSON (N. J.) BIRD CLUB:
President, Ira Barrows, 15 Maiden Lane, New York City, N. Y.
Secretary, John B. Lunger, 120 Broadway, New York City, N. Y.

SAGEBRUSH AND PINE CLUB (NORTH YAKIMA, WASH.):
President, J. Howard Wright, North Yakima, Wash.
Secretary, Miss Carrie Grosenbaugh, North Yakima, Wash.

ST. LOUIS (MO.) BIRD CLUB:
President, Dr. Robert J. Terry, 5315 Delmar Ave , St. Louis, Mo.
Secretary, Mrs. Kelton E. White, 4354 Maryland Ave., St. Louis, Mo.

SARATOGA (N. Y.) BIRD CLUB:
President, Dr. J. Manning Spoerl, 514 Broadway, Saratoga Springs, N. Y.
Secretary, Miss Caroline C. Walbridge, 109 Lake Ave., Saratoga Springs, N. Y.

SAVANNAH (GA.) AUDUBON SOCIETY:
President, H. B. Skeele, 116 West Gaston St., Savannah, Ga.
Secretary, Dr. J. T. Maxwell, 102 East Liberty St., Savannah, Ga.

SCITUATE (MASS.) WOMAN'S CLUB:
President, Mrs. Eva L. Granes, North Scituate, Mass.
Secretary, Mrs. Mary A. Doherty, Scituate, Mass.

SEATTLE (WASH.) AUDUBON SOCIETY:
President, Mrs. C. N. Compton, 625 12th Ave. N., Seattle, Wash.
Secretary, Dr. J. Dean Terry, 710 Joshua Green Building, Seattle, Wash.

SEWICKLEY VALLEY (PA.) AUDUBON SOCIETY:
President, C. B. Horton, 21 Centennial Ave., Sewickley, Pa.
Secretary, Mrs. M. G. Rose, 123 Meadow Lane, Edgeworth, Sewickley, Pa.

SHAKER LAKES GARDEN CLUB (CLEVELAND, OHIO):
President,
Secretary,

SKANEATELES (N. Y.) AUDUBON SOCIETY:
President,
Secretary, Miss Sarah M. Turner, Skaneateles, N. Y.

SMITHLAND (IOWA) AUDUBON SOCIETY:
President, Mrs. Kate Rahn, Smithland, Iowa.
Secretary, Miss Nelle I. Jones, Smithland, Iowa.

SOMERSET HILLS (N. J.) BIRD CLUB:
President, John Dryden Kuser, Bernardsville, N. J.
Secretary, Walter F. Chappell, Bernardsville, N. J.

SOUTH BEND (IND.) HUMANE SOCIETY:
President, Mrs. F. E. Hering, 909 East Jefferson St., South Bend, Ind.
Secretary, H. A. Pershing, South Bend, Ind.

SOUTH HAVEN (MICH.) BIRD CLUB:
President, Mrs. A. D. Williams, South Haven, Mich.
Secretary, Mrs. S. H. Wilson, Route No. 2, South Haven, Mich.

SPOKANE (WASH.) BIRD CLUB:
President, Walter Bruce, 813 Lincoln Place, Spokane, Wash.
Secretary, Mrs. Cora Roberts, Breslin Apartments, Spokane, Wash.

STATEN ISLAND (N. Y.) BIRD CLUB:
President, Mrs. Charles M. Porter, 224 Davis Ave., West New Brighton, N. Y.
Secretary, Howard H. Cleaves, New Brighton, S. I., N. Y.

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SUSSEX COUNTY (N. J.) NATURE STUDY CLUB:
President, Mrs. Wm. G. Drake, 33 Halsted, St., Newton N. J.
Secretary, Miss F. Blanche Hill, Andover, N. J.
TWENTIETH CENTURY CLUB OF DETROIT (20TH CENTURY CLUB BUILDING, DETROIT MICH.):
President,
Secretary,
UTICA (N. Y.) NEW CENTURY CLUB:
President,
Secretary, Miss Elizabeth G. Brown, 1004 West St., Utica, N. Y.
VASSAR WAKE ROBIN CLUB (POUGHKEEPSIE, N. Y.):
President, Miss Mary K. Brown, Vassar College, Poughkeepsie, N. Y.
Secretary, Miss Mary Horne, Vassar College, Poughkeepsie, N. Y.
VERMONT BIRD CLUB:
President, Dr. Ezra Brainerd, Middlebury, Vt.
Secretary, Mrs. Nellie Flynn, Burlington, Vt.
VIGO COUNTY (IND.) BIRD CLUB:
President, Mrs. Leon Stern, 669 Oak St., Terre Haute, Ind.
Secretary, Mrs. John T. Latshaw, Terre Haute, Ind.
WADLEIGH GENERAL ORGANIZATION (NEW YORK CITY):
President, Miss Frieda Finklestein, 233 West 112th St., New York City.
Secretary, Miss Mildred Bunnell, 235 West 135th St., New York City.
WASHINGTON (IND.) AUDUBON SOCIETY:
President, Mrs. Cameron Hyatt, 702 Walnut St., Washington, Ind.
Secretary, Cameron Hyatt, 702 Walnut St., Washington, Ind.
WASHINGTON STATE FEDERATION OF WOMEN'S CLUBS:
President, Mrs. Solon Shedd, Pullman, Wash.
Secretary, Mrs. Ira D. Cardiff, 302 Oak St., Pullman, Wash.
WATERBURY (CONN.) BIRD CLUB:
President, R. E. Platt, 36 Chapman Ave., Waterbury, Conn.
Secretary, C. F. Northrup, 138 Concord St., Waterbury, Conn.
WATERTOWN (N. Y.) BIRD CLUB:
President, P. B. Hudson, Watertown, N. Y.
Secretary, Miss Grace B. Nott, Watertown, N. Y.
WELLESLEY (MASS.) COLLEGE BIRD CLUB:
President, Miss Isabel D. Bassett, 1716 Newkirk Ave., Brooklyn, N. Y.
Secretary, Miss Madeline E. Almy, 21 Morgan St., New Bedford, Mass.
WESTERN PENNSYLVANIA AUDUBON SOCIETY (PITTSBURGH, PA.):
President, Charles B. Horton, 902 Standard Life Building, Pittsburgh, Pa.
Secretary, John W. Thomas, Pittsburgh, Pa.
WILD LIFE PROTECTIVE SOCIETY OF MILWAUKEE (WIS.):
President, Clarence J. Allen, 1210 Second St., Milwaukee, Wis.
Secretary, Adolph Biersach, 1219 Second St., Milwaukee, Wis.
WILLIAMSTOWN (MASS.) BIRD CLUB:
President, Prof. S. F. Clarke, Williamstown, Mass.
Secretary, Mrs. O. M. Fernald, Williamstown, Mass.
WINSTON-SALEM (N. C.) AUDUBON SOCIETY:
President, Col. W. A. Blair, care of Peoples Bank, Winston-Salem, N. C.
Secretary, Miss Helen Keith, 32 Brookstown Ave., Winston-Salem, N. C.
WISCONSIN GAME PROTECTIVE ASSOCIATION:
President, Dr. A. T. Rasmussen, La Crosse, Wis.
Secretary, E. P. Trautman, Stevens Point, Wis.

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WOMAN'S CLUB (SEYMOUR, CONN.):
President, Mrs. E. B. Hobart, 40 Maple St., Seymour, Conn.
Secretary, Mrs. L. C. McEwen, 106 West St., Seymour, Conn.
WYNCOTE (PA.) BIRD CLUB:
President, E. H. Parry, Wyncote, Pa.
Secretary, Miss Esther Heacock, Wyncote, Pa.
WYOMING VALLEY (PA.) AUDUBON SOCIETY:
President, Dr. H. M. Beck, 68 West Northampton St., Wilkes-Barre, Pa.
Secretary, H. W. Bay, 66 Pettebone St., Kingston, Pa.

VARIOUS KINDS OF BIRD FOOD HAVE JUST BEEN PLACED ON THE SYCAMORE TREE BY THIS JUNIOR AUDUBON CLASS OF PERU, NEBRASKA

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JOHN H. KOCH & COMPANY, Certified Public Accountants
55 Liberty Street, New York

New York, October 25, 1918.

THE AUDIT COMMITTEE,
National Association of Audubon Societies,
1974 Broadway, New York, N. Y.

Gentlemen:—In pursuance with engagement, we have made the customary examination of the books, accounts, and records of the National Association of Audubon Societies for the year ended October 19, 1918, and present herewith the following Exhibits:

EXHIBIT A—BALANCE SHEET AS AT OCTOBER 19, 1918.
EXHIBIT B—INCOME AND EXPENSE ACCOUNT, GENERAL FUND.
EXHIBIT C—INCOME AND EXPENSE ACCOUNT, EGRET FUND.
EXHIBIT D—INCOME AND EXPENSE ACCOUNT, CHILDREN'S EDUCATIONAL FUND.
EXHIBIT E—INCOME AND EXPENSE ACCOUNT, DEPARTMENT OF APPLIED ORNITHOLOGY.
EXHIBIT F—STATEMENT OF RECEIPTS AND DISBURSEMENTS.

Our examination embraced a verification of all disbursements made, which were substantiated either by approved receipted vouchers or canceled endorsed checks.

We attended the Safe Deposit Company's vaults and examined all investment securities, which we found in order.

Submitting the foregoing, we are,

Very truly yours,
JOHN H. KOCH & CO.
Certified Public Accountants.

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The Report of the Treasurer of the National Association of Audubon Societies, for Year Ending October 19, 1918

Exhibit A

ASSETS

Cash in Banks and at Office		$26,456 84
Furniture and Fixtures—		
Balance, October 19, 1917	$2,024 42	
Purchased this year	31 70	
	$2,056 12	
Less—Depreciation	205 61	
		1,850 51
Inventory of Plates, etc. (Nominal Value)		500 00
Bird Island Purchase, Orange Lake, Fla.		250 20
Buzzard Island, S. C.		300 00
Audubon Boats—		
Balance, October 19, 1917	$2,788 30	
Additions this year	45 50	
	$2,833 80	
Less—Depreciation	283 38	
		2,550 42
Investments, Endowment Fund—		
Bonds and Mortgages on Manhattan Real Estate	$390,050 00	
U. S. Mortgage and Trust Co. Bonds	3,000 00	
Manhattan Beach Securities Co.	1,000 00	
U. S. Government Liberty Bonds	20,000 00	
		414,050 00
Investments, Mary Dutcher Memorial Fund—		
Bonds and Mortgages on Manhattan Real Estate		7,100 00
		$453,057 97

LIABILITIES

Endowment Funds—		
Balance, October 19, 1917	$399,684 89	
Received from Life Members	16,180 00	
Received from Gifts	295 00	
		$416,159 89
Mary Dutcher Memorial Fund—		
Balance, October 19, 1917		7,737 70
Special Funds—		
Egret Protection Fund, Exhibit C	$1,437 84	
Children's Educational Fund, Northern States, Exhibit D	16,235 52	
Department of Applied Ornithology, Exhibit E	131 50	
		17,804 86
Surplus—		
Surplus beginning of year	$8,043 95	
Balance from Income Account, Exhibit B	3,311 57	
		11,355 52
		$453,057 97

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INCOME AND EXPENSE ACCOUNT—General Fund

Exhibit B

EXPENSE

Warden Services and Reservations—		
Salaries	$1,525 84	
Launch expenses	861 08	
Reservation expenses	21 90	
		$2,408 82
Educational Effort—		
Administrative expenses	$7,178 83	
Field Agents, salaries and expenses	4,726 71	
BIRD-LORE, extra pages and Annual Report	2,425 13	
Printing, office and Field Agents	144 50	
Traveling, local workers	32 67	
Electros and half-tones	503 54	
Library	244 13	
Slides	829 00	
Educational Leaflets	1,934 15	
BIRD-LORE to members	4,254 55	
Bird Books	1,886 24	
Colored plates in BIRD-LORE	507 86	
Drawings	308 00	
Field-glasses	356 50	
Contribution to Meriden Bird Club	250 00	
Contribution to Wisconsin Game Protective Association	500 00	
Song-bird campaign, posters, circulars, and publicity	210 00	
Summer School work	640 00	
Legislation	90 86	
Publicity and press information	535 19	
Investigating Pelican rookeries	360 79	
		27,918 65
General Expenses—		
Office assistants	$8,212 47	
Telegraph and telephone	280 09	
Postage	2,447 08	
Office and storeroom rents	1,945 00	
Motion pictures	319 72	
Legal services	401 56	
Auditing	184 00	
Envelopes and supplies	284 60	
Miscellaneous	593 85	
Cartage and expressage	146 03	
Insurance	124 17	
Electric Light	39 34	
Sales Department expense	537 41	
Depreciation on boats	283 38	
Depreciation on office furniture	205 61	
Exchange on checks	34 20	
	$18,038 51	
Amount carried forward		$30,327 47

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INCOME AND EXPENSE ACCOUNT—General Fund

Amount brought forward		$30,327 47
Expenses brought forward	$18,038 51	
General Expenses, continued—		
Annual meeting expense	374 36	
Stencil addressograph machine	47 95	
Multigraphing	49 05	
New members' expense	6,688 34	
		23,198 21
Total expenses		$53,525 68
Balance surplus for Year (Exhibit A)		3,311 57
		$56,837 25

INCOME

Members Dues		$19,450 00
Contributions		7,469 50
Interest on Investments		21,516 41
Sales—		
Educational Leaflets sales	$3,033 33	
Field-glasses	580 15	
Sales of slides	795 80	
BIRD-LORE subscriptions	1,005 73	
Bird-Book sales	2,986 33	
		8,401 34
		$56,837 25

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EGRET PROTECTION FUND

INCOME AND EXPENSE ACCOUNT

Exhibit C

INCOME—		
Balance unexpended October 19, 1917	$870 15	
Contributions	2,505 60	
		$3,375 75
EXPENSES—		
Egret wardens and inspections	$1,685 00	
Postage, printing envelopes, and circularizing	129 12	
Miscellaneous	123 79	
	$1,937 91	
Balance unexpended October 19, 1918	1,437 84	
	$3,375 75	$3,375 75

DEPARTMENT OF APPLIED ORNITHOLOGY

INCOME AND EXPENSE ACCOUNT

Exhibit E

INCOME—		
Contributions	$2,291 00	
Earnings by H. K. Job from public lectures	675 36	
Miscellaneous	50 00	
	$3,016 36	
Less—Deficit October 19, 1917	118 99	
		$2,897 37
EXPENSES—		
Agent's salary and expenses	$2,631 25	
Motion-picture films	14 16	
Miscellaneous	120 46	
	$2,765 87	
Balance unexpended October 19, 1918	131 50	
	$2,897 37	$2,897 37

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CHILDREN'S EDUCATIONAL FUND

INCOME AND EXPENSE ACCOUNT

Exhibit D

INCOME—		
Balance, October 19, 1917	$16,541 69	
Contributions	26,275 00	
Junior members' fees	16,180 80	
Refunds by express companies	45 27	
	$59,042 76	
Less—Deficit October 19, 1917, in Sage Fund	852 53	
		$58,190 23
EXPENSES—		
Administrative expenses	$1,000 00	
Field Agents, salaries and expenses	3,132 15	
Stenographic and clerical work	3,820 90	
Office supplies	78 98	
Expressage on literature	912 91	
Postage on circulars and literature	5,060 00	
Printing leaflet units for Junior Members	10,900 00	
Audubon Cabinets	5,704 00	
Soliciting for Junior funds	210 10	
Printed circulars to teachers	633 81	
BIRD-LORE for Junior Classes	4,257 14	
Half-tones for publication	424 90	
Reports and publicity	3,151 01	
Buttons for Junior members	1,365 10	
Colored plates in BIRD-LORE	511 07	
Printed envelopes	89 90	
Office rent	540 00	
Miscellaneous	162 74	
	$41,954 71	
Balance unexpended October 19, 1918	16,235 52	
	$58,190 23	$58,190 23

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STATEMENT OF RECEIPTS AND DISBURSEMENTS YEAR ENDING OCTOBER 19, 1918

Exhibit F

RECEIPTS—			
Income on General Fund		$56,837 25	
Endowment Fund		16,475 00	
Egret Fund		2,505 60	
Children's Educational Fund		42,501 07	
Department of Applied Ornithology		3,016 36	
Total receipts, year ending October 19, 1918			$121,335 28
Cash balance October 19, 1917			27,843 94
			$149,179 22
DISBURSEMENTS—			
Expenses on General Fund		$53,036 69	
Investment on Endowment Fund	$34,800 00		
Less—Amount received on account of Mortgages	11,850 00		
		22,950 00	
Egret Fund		1,937 91	
Children's Educational Fund		41,954 71	
Department of Applied Ornithology		2,765 87	
Furniture account		31 70	
Addition to boats		45 50	
Total disbursements for year ending Oct. 19, 1918			$122,722 38
Cash Balance, October 19, 1918			26,456 84
			$149,179 22

NEW YORK, October 19, 1918

DR. F. A. LUCAS,
Acting President,
National Association of Audubon Societies,
New York City.

Dear Sir:—We have examined reports submitted by John H. Koch & Company, certified public accountants, on the accounts of the National Association of Audubon Societies for the year ending October 19, 1918. The accounts show balance sheets of October 19, 1918, and income and expense account for the year ending the same date. Vouchers and paid checks have been examined by them in connection with all disbursements, and also the securities in the Safe Deposit Company.

Yours very truly,
J. A. ALLEN,
T. GILBERT PEARSON,
Auditing Committee.

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LISTS OF MEMBERS OF AND CONTRIBUTORS TO THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES

BENEFACTOR

Albert Wilcox 1906

FOUNDER

Mrs. Russell Sage 1910

PATRONS

William P. Wharton 1909
Miss Heloise Meyer 1912
Anonymous 1915
Gen. Coleman duPont 1917

LIFE MEMBERS

Abell, Edwin F. 1917
Abbott, Clinton G. 1910
Ackley, Adeline E. 1918
Adams, Edward D. 1916
Adams, Joseph 1918
Adams, Thomas M. 1916
Agassiz, G. R. 1917
Agnew, Alice G. 1916
Ahl, Mrs. Leonard 1915
Ainsworth, Mrs. H. A. 1918
A—— M. C. 'From a Friend' 1918
Allerton Mrs. S. W. 1917
Alms, Mrs. Frederick H. 1913
Ams, Charles M. 1916
Anderson, Frank Bartow 1917
Andrews, Mrs. E. B. 1914
Andrews, J. Sherlock 1916
Armstrong, Dr. S. T. 1913
Arnold, Benjamin Walworth 1914
Arnold, Edward W. C. 1916
Ash, Charles G. 1913
Ashmun, Mrs. B. I. 1918
Auchmuty, Mrs. R. T. 1913
Ault, L. A. 1917
Austen, Mrs. Isabel Valle 1914
Ayres, Miss Mary A. 1915
Babcock, Mrs. Perry H. 1912
Bacon, Mrs. Robert 1912
Bailey, Mrs. Charles 1918
Baldwin, S. P. 1918
Ball, Miss Susan L. 1918
Bancroft, Wilder D. 1917
Bancroft, Wm. P. 1906
Barbey, Henry G. 1914
Barr, Mrs. Cornelia Basset 1917
Barr, James H. 1916
Barrows, Ira 1917
Bartlett, Miss Florence 1916
Bartol, Mrs. J. W. 1915
Bassett, Mrs. Robert J. 1918
Batcheller, Robert 1917
Bates, Mrs. Ella M. 1914
Battelle, J. G. 1917
Battles, Miss C. Elizabeth 1918
Baylies, Mrs. N. E. 1912
Beebe, Mrs. J. Arthur 1907
Beech, Mrs. Herbert 1914
Bell, Louis V. 1917
Bemis, Albert F. 1918
Bennett, Mrs. Alice H. 1914
Berwind, John L. 1915
Bigelow, Dr. Wm. Sturgis 1912
Bingham, Miss Harriet 1907
Black, R. Clifford 1916
Blake, Mrs. Francis 1916
Blanchard, Miss Sara H. 1918
Blanding, Gordon 1917
Bliss, Robert Woods 1915
Bliss, Mrs. Wm. H. 1912
Boardman, Miss Rosina C. 1916
Boericke, Harold 1917
Boettger, Robert 1916
Bolling, Mrs. Raynal C. 1909
Borden, Miss Emma L. 1914
Borden, Mrs. William 1917
Bourn, W. B. 1917
Bowdoin, Miss Ethel G. 1911
Bowdoin, Mrs. Temple 1911
Bowles, H. L. 1917
Brackenridge, George W. 1916
Branch, Miss Effie K. 1917
Brewster, Frederick F. 1916
Brewster, William 1905
Bridge, Mrs. Lidian E. 1907
Brooker, Charles F. 1917
Brooks, A. L. 1906
Brooks, Miss Fanny 1913
Brooks, Gorham 1911
Brooks, Peter C. 1911
Brooks, Shepherd 1907
Brooks, Mrs. Shepherd 1906
Brown, Mrs. Addison 1917
Brown, Miss Annie H. 1914
Brown, T. Hässal 1913

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LIFE MEMBERS, continued

Browning, J. Hull....1905
Browning, Mrs. J. Hull....1918
Brownson, Mrs. Willard H....1918
Bruun, Charles A....1918
Buhl, Arthur H....1917
Burnham, William....1916
Burr, I. Tucker....1915
Burrall, Mrs. E. M....1918
Bushnell Mrs. Harriet L....1918
Butler, Mrs. Paul....1916
Butterworth, Frank S., Jr....1915
Butterworth, Mrs. William....1916
Cabot, Mrs. A. T....1913
Camden, J. N....1914
Camden, Mrs. J. N....1914
Campbell, Miss Helen Gordon....1909
Campbell, John Boylston....1916
Carew, Mrs. Lucie B....1917
Carhartt, Hamilton....1916
Carr, General Julian S....1907
Cary, Miss Kate....1916
Case, Miss Louise W....1914
Cate, Mrs. Isaac M....1918
Chahoon, Mrs. George, Jr....1917
Chapin, Mrs. Charles A....1917
Chapin, Chester W....1910
Chapman, Clarence E....1908
Chase, Miss Helen E....1918
Chase, Mrs. Phillip A....1913
C——, E. S....1913
Childs, Eversley....1916
Childs, John Lewis....1905
Clark, George H....1916
Clark, Hopewell....1917
Clarke, Mrs. W. N....1912
Clementson, Mrs. Sidney....1916
Clow, William E....1917
Clyde, William P....1905
Cockcroft, Miss Elizabeth V....1917
Codman, Miss Catherine A....1918
Coe, Miss Ella S....1918
Coe, Thomas Upham....1917
Colburn, Miss Nancy E....1915
Cole, Miss Ella M....1918
Colfelt, Mrs. Rebecca McM....1917
Colgate, Henry A....1917
Colgate, Richard M....1916
Colgate, William....1917
Collins, Charles H....1918
Collins, Thomas H....1916
Comstock, Miss Clara E....1914
Comstock, Robert H....1918
Converse, Mrs. Costello C....1915
Converse, E. C....1916
Coolidge, J. Randolph....1913
Coloidge, Oliver H....1912
Coollidge, T. Jefferson, 3rd....1907
Coolidge, T. Jefferson....1918
Cooper, Mrs. Theresa Bissinger....1918
Coorigan, James W....1917
Cotton, Mrs. Elizabeth A....1915
Covell, Dr. H. H....1916
Cowl, Mrs. Clarkson....1916
Crabtree, Miss Lotta M....1912
Cranston, Miss Louise....1918
Crocker, C. T....1917
Crocker, Mrs. Emmons....1912
Crosby, Maunsell S....1905
Cross, Mrs. R. J....1915
Crozier, Mrs. J. Lewis....1908
Cudworth, Mrs. F. B....1911
Curtis, Mrs. Anna Shaw....1917
Curtis, Roy A....1917
Cutting, Mrs. W. Bayard....1913
Cuyler, Miss Eleanor DeGraff....1917
Dabney, F. L....1917
Dahlstrom, Mrs. C. A....1916
Dane, Edward....1912
Dane, Ernest Blaney....1913
Dane, Ernest Blaney, Jr....1912
Dane, Mrs. E. B....1913
Daniell, J. T....1917
Davis, David D....1911
Davis, William T....1910
Davol, Miss Florence W....1916
Day, Mrs. Frank A....1915
Dean, Charles A....1916
Deering, Charles....1913
Deering, James....1917
Depew, Chauncey M., Jr....1915
DeWolf, Wallace L....1917
Dick, Albert B....1917
Dietz, Charles N....1917
Dietz, Mrs. C. N....1918
Dimock, Mrs. Henry F....1917
District of Columbia Audubon Soc....1915
Dobyne, Miss Margaret M....1917
Dodge, Cleveland H....1916
Doepke, Mrs. William F....1916
Dommerich, Otto L....1917
Dows, Tracy....1914
Draper, Mrs. Henry....1913
Drummond, Miss Mary....1915
Ducharme, William H....1917
Duer, Mrs. Denning....1915
Dunbar, F. L....1918
duPont, Alexis I....1917
duPont, H. A....1917
duPont, P. S....1917
Earle, Carlos Y. Poitevent....1905
Earle, Miss E. Poitevent....1905
Eastman, George....1906
Eddison, Charles....1906
Edgar, Daniel....1908
Elliot, Mrs. J. W....1912
Ellis, Ralph....1917
Ellis, William D....1917
Ellsworth, James W....1915
Elser, Albert C....1918
Emerson, Mrs. G. D....1918
Emery, Miss Georgia Hill....1918
Emmons, Mrs. R. W., 2nd....1908
Endicott, H. B....1908
Erbe, Gustave....1917
Eustis, Mrs. Herbert H....1917
Everett, Edward H....1917

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LIFE MEMBERS, continued

Everett, Miss Dorothy 1916
Falk, Herman W. 1917
Farrel, Mrs. Franklin 1913
Farwell, John V. 1917
Fay, Dudley B. 1913
Fay, Mrs. Flora Ward 1905
Fenno, Mrs. L. Carteret 1913
Field, Cortland deP 1915
Fincke, William Mann, Jr. 1916
Flattery, Miss Anne L. 1917
Fleischmann, Julius 1913
Flint, Mrs. Jessie S. P. 1913
Follansbee, B. G. 1917
Follin, M. D. 1918
Folsom, Miss M. G. 1918
Forbes, Mrs. William H. 1914
Forbush, Edward Howe 1910
Ford, Mrs. Bruce 1917
Ford, James B. 1913
Fortmann, Henry F. 1918
Frackelton, Mrs. R. J. 1917
Freeman, Alden 1918
Freeman, C. H. 1917
Freeman, Mrs. James G. 1915
French, Miss Caroline L. W. 1911
Frothingham, John W. 1913
Frothingham, Mrs. L. A. 1916
Gallatin, F., Jr. 1908
Gardner, Mrs. John Lowell 1917
Garneau, Joseph 1913
Garvan, Francis P. 1917
Garrett, Mrs. P. C. 1918
Gavit, E. Palmer 1917
Gazzam, Mrs. Antoinette E. 1908
Gelpcke, Miss A. C. 1918
Gelpcke, Miss Marie 1918
Gifford, Dr. Harold 1917
Gifford, James M. 1917
Gifford, Mrs. Robert L. 1908
Gladding, Mrs. John Russell 1914
Glassell, Andrew 1918
Glazier, Henry S. 1916
Godfrey, Mrs. Abbie P. 1917
Godfrey, Miss Adelaide E. 1918
Goodwin, Walter L., Jr. 1914
Gordon, Mrs. Donald 1918
Gould, George H. 1917
Grant, W. W. 1910
Grasselli, C. A. 1917
Gray, Miss Elizabeth F. 1915
Graydon, Mrs. Clendeny 1913
Greene, Stephen, 2nd 1917
Greenway, Mrs. James C. 1912
Grew, Mrs. H. S. 1913
Gribbel, Mrs. John 1918
Griswold, Mrs. E. S. 1915
Guggenheim, Hon. Simon 1917
Haehnle, Reinhold, ... 1912
Haggin, Mrs. J. B. 1917
Haggin, L. T. 1917
Hamilton, Miss Elizabeth S. 1918
Hamilton, Mrs. H. R. 1918
Hamlin, Mrs. Eva S. 1916
Hancock, Mrs. James Denton 1916
Hanna, H. M., Jr. 1917
Hanna, Mrs. H. M., Jr. 1916
Hanna, Miss Mary 1917
Hansen, Miss Emilie L. 1918
Harbeck, Mrs. Emma Gray 1916
Hardy, Mrs. Richard 1918
Harrah, Mrs. Charles J. 1913
Harral, Mrs. Ellen W. 1914
Harriman, Mrs. J. Low 1918
Harrison, Alfred C. 1914
Hasbrouck, H. C. 1915
Haskell, J. Amory 1916
Havemeyer, Mrs. H. O., Jr. 1907
Hawkins, Rush C. 1913
Hayes, Edmund 1917
Hearst, Mrs. P. A. 1909
Hecker, Frank J. 1917
Hemenway, Augustus 1915
Hemenway, Mrs. Augustus 1905
Henderson, William 1918
Hentz, Leonard S. 1914
Higginson, Mrs. James J. 1916
Hill, Miss Clara A. 1917
Hill, Hugh 1915
Hill, Mrs. James 1917
Hill, Mrs. Susie R. 1917
Hinckley, Mrs. M. V. 1918
Hitch, Mrs. Frederic Delano 1915
Hoe, Richard M. 1917
Hoff, Mrs. Grace Whitney 1915
Hoffman, Samuel V. 1907
Hopewell, Frank 1911
Hornbroke, Mrs. Frances B. 1913
Hostetter, D. Herbert 1907
Houghton, Miss Elizabeth G. 1914
Howard, Miss Edith M. 1915
Hubbard, Joshua C., Jr., ... 1915
Hubbard, Richard 1915
Hubby, Miss Ella F. 1918
Hunnewell, Mrs. Arthur 1918
Hunnewell, H. S. 1905
Hunnewell, Walter 1915
Hunter, Anna F. 1917
Huntington, Archer M. 1905
Huntington, Howard 1918
Huntington, H. E. 1917
Hyde, Mrs. Clarence M. 1917
Iselin, Mrs. C. Oliver 1918
Iselin, Columbus O'D 1917
Jackman, Edwin S. 1916
Jackson, Mrs. James 1908
Jaffray, Robert 1917
James, Ellerton 1918
Jamison, Margaret A. 1914
Jenkins, Mrs. Jos. W. 1916
Jennings, Oliver G. 1917
Jones, Jerome 1915
Jones, Mrs. Lawrence 1917
Jordan, Miss Jeannette A. 1917
Joslyn, Mrs. George A. 1916
Keen, Miss Florence 1916
Keith, Mrs. D. M. 1916

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LIFE MEMBERS, continued

Kent, Sherman 1917
Kettle, Mrs. L. N. 1913
Kidder, Nathaniel T. 1905
Kilmer, Willie Sharpe 1907
Kimball, Mrs. Arthur R. 1918
King, Miss Ellen 1915
Kingsbury, Miss Alice E. 1916
Kinney, Morris 1913
Kittredge, Miss Sara N. 1914
Knight, Miss A. C. 1913
Kuithan, Emil F. 1918
Kuser, John Dryden 1911
Lancashier, Mrs. J. H. 1918
Lane, Benjamin, C. 1909
Lang, Albion E. 1916
Langdon, Woodbury G. 1916
Lansing, Mrs. G. Y. 1916
Lauder, Mrs. E. S. 1918
Lawrence, Emben 1916
Lawrence, Rosewell B. 1916
Lawson, Victor F. 1917
Lefferts, M. C. 1914
Liesching, Bernhard 1918
Lippitt, Mrs. C. 1918
Logan, Stuart 1917
Longyear, John M. 1917
Loring, Miss Helen 1918
Loring, Mrs. W. Caleb 1913
Low, Miss Nathalie F. 1916
Loyd, Miss Sara A. C. 1914
McClymonds, Mrs. A. R. 1914
McConnell, Mrs. Annie B. 1908
McCormick, Mrs. R. S. 1917
McCormick, Mrs. R. T. 1918
McGraw, Mrs. Thomas S. 1908
McKim, LeRoy 1918
McLane, Guy R. 1916
McOwen, Frederick 1917
Mackey, Clarence H. 1908
MacLean, Mrs. Charles F. 1916
Mallery, Mrs. Jane M. 1914
Markle, John 1917
Marmon, Mrs. Elizabeth C. 1916
Marshall, Louis 1906
Marshall, Thomas K. 1915
Martin, Mrs. Bradley 1918
Mason, Miss Ellen F. 1913
Mason, Miss Fanny P. 1912
Mason, George Grant 1914
Massachusetts Audubon Society 1915
Mead, Mrs. Charles Marsh 1915
Meloy, Andrew D. 1910
Merrill, Mrs. Mary E. 1917
Merriam, A. Ware 1918
Merriman, Mrs. Daniel 1915
Mershon, Hon. W. B. 1914
Meyer, Mrs. August R. 1917
Meyer, Charles F. 1917
Meyer, Miss Heloise 1910
Miles, Mrs. Flora E. 1916
Miller, Charles Kingsbury 1917
Miller, Mrs. E. C. T. 1916
Mishall, Miss Helen 1918
Mitchell, Mrs. John G. 1916
Mitchell, Miss Mary 1916
Moore, Clarence B. 1909
Moore, Mrs. William H. 1916
Morgan, Miss Caroline L. 1917
Morgan, Mrs. J. P., Jr. 1918
Morison, Robert S. 1916
Morrill, Miss Amelia 1917
Morris, Effingham B. 1917
Morse, Mrs. Waldo G. 1918
Morton, Miss Mary 1906
Mott, Mrs. John B. 1918
Mudd, Dr. Harvey G. 1917
Mulliken, Alfred H. 1917
Munson, Mrs. W. D. 1918
Murphy, Franklin 1909
Neave, Miss Jane C. 1916
Nevins, Mrs. Davis 1916
Newberry, W. F. 1916
Newcomer, Waldo 1917
New Jersey Audubon Society 1913
Newman, Mrs. R. A. 1914
Nichols, Mrs. William G. 1915
Norris, Mrs. E. L. Breese 1918
North Carolina Audubon Society 1905
Noyes, Mrs. Davis A. 1916
O'Brien, Mrs. Michael W. 1917
Oldberg, Mrs. Emma 1918
Olds, R. E. 1917
Oliver, Mrs. James B. 1916
Osborn, Frederick 1917
Osborn, Professor Henry Fairfield 1917
Osborn, Mrs. William C. 1916
Pagenstecher, Albrecht 1918
Paine, F. W. 1917
Parker, A. H. 1908
Parker, Mrs. Gordon 1918
Parker, Edward L. 1909
Parsons, Mrs. J. D. 1918
Parsons, Miss Mary W. 1913
Peabody, Geo. A. 1914
Pearson, T. Gilbert 1905
Peck, Mrs. Walter L. 1909
Perkins, Miss Ellen G. 1914
Perkins, Mrs. George C. 1913
Perkins, Mrs. Gilman H. 1918
Perkins, William H. 1917
Peterson, Arthur 1916
Phelps, Mrs. J. W. 1914
Phillips, Mrs. Eleanor H. 1908
Phillips, John C. 1905
Phillips, Mrs. John C. 1905
Pickman, Mrs. Dudley L. 1907
Pierrepont, Anna J. 1905
Pierrepont, John J. 1905
Pierrepont, Mrs. R. Stuyvesant 1914
Poland, James P. 1909
Pomeroy, Mrs. Nelson 1915
Pope, Willard 1918
Porter, Mrs. A. B. 1918
Powers, Thomas H. 1918
Pratt, Geo. D. 1911
Prentiss, F. F. 1916

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LIFE MEMBERS, continued

Prime, Miss Cornelia 1909
Procter, Mrs. William C. 1918
Quier, Mrs. Edwin A. 1917
Quincy, Mrs. H. P. 1915
Rainsford, Dr. W. S. 1913
Rathborne, Richard C. 1916
Reed, Mrs. William Howell 1905
Remsen, Miss Elizabeth 1916
Renwick, Mrs. William W. 1914
Reynolds, R. J. 1908
Richardson, Mrs. Charles F. 1918
Richardson, S. O., Jr. 1917
Riker, John J. 1916
Roberts, Miss Frances A. 1914
Rockwood, Mrs. George I. 1918
Rockefeller, Wm. G. 1912
Rodewald, F. L. 1916
Roebling, Mrs. John A. 1916
Roebling, Washington A. 1917
Rogers, Charles H. 1912
Rogers, Dudley P. 1914
Rogers, Miss Ella A. 1917
Rogers, Miss Julia 1918
Ropes, Mrs. Mary G. 1913
Rosengarten, George D. 1917
Ruf, Mrs. Frank A. 1917
Rumsey, Mrs. Charles C. 1918
Russell, Mrs. Gurdon W. 1914
Sage, Mrs. Russell 1905
Saltonstall, John L. 1908
Sanger, Mrs. C. R. 1916
Sarmiento, Mrs. F. J. 1918
Satterlee, Mrs. Herbert L. 1906
Schroeder, Miss Lizzie H. 1911
Seebury, Miss Sara E. 1915
Seaman, L. W. 1912
Sears, William R. 1915
Seton, Ernest T. 1916
Severance, John L. 1916
Sharpe, Miss Ellen D. 1915
Shattuck, Mrs. F. C. 1906
Shead, Mrs. Lucia W. 1918
Shepard, Mrs. Elizabeth D. 1918
Sherman, Miss Althea R. 1909
Short. William 1918
Sibley, Hiram W. 1915
Silsbee, Thomas 1918
Simpson, Alexander, Jr. 1917
Slattery, John R. 1916
Sloane, Henry T. 1918
Smith, Francis Drexel 1918
Smith, Frank A. 1918
Smith, Mrs. Heber 1917
Spaulding, S. S. 1917
Speed, Mrs. J. B. 1918
Speed, William S. 1917
"Iowa Friend" 1916
Stahl, Adolfo 1917
Stambaugh, H. H. 1917
Starlweather, Mrs. J. N. 1918
Stetson, Francis Lynde 1916
Stewart, Mrs. Edith A. 1913
Stillman, B. G. 1916
Stillman, Chauncey D. 1916
Stone, Charles A. 1917
Stone, Miss Ellen J. 1914
Strong, Charles Hamot 1917
Strong, Mrs. J. R. 1918
Stuart, F. A. 1916
Sturgis, Mrs. F. K. 1917
Swift, Charles H. 1917
Swift, Louis F. 1917
Taft, Elihu B. 1911
Talbott, H. E. 1917
Talcott, George S. 1917
Taylor, Charles H., Jr. 1908
Thaw, J. C. 1916
Thayer, Mrs. Edward D. 1917
Thayer, Mrs. Ezra R. 1909
Thayer, John E. 1909
Thompson, Mrs. Frederick F. 1908
Tingley, S. H. 1914
Torrey, Mrs. Elbridge 1913
Troescher, A. F. 1917
Tucker, Carll 1917
Tuckerman, Alfred 1915
Tufts, Leonard 1907
Tuttle, Arthur J. 1917
Turner, Mrs. George M. 1917
Turner, Mrs. William J. 1917
Tyson, Mrs. George 1915
Underwood, H. O. 1916
Upham, Frederick W. 1917
Upmann, Albert 1917
Upson, Mrs. Henry S. 1916
Van Brunt, Mrs. Charles 1912
Vanderbilt, Mrs. French 1914
Van Name, Willard G. 1905
Van Norden, Warner M. 1917
Vaux, George, Jr. 1905
Vaux, Miss Meta 1917
Velie, Charles D. 1918
Voss, Miss Alice McKim 1917
Wadsworth, Clarence S. 1911
Wakeman, Miss Frances 1915
Walker, Miss Alice L. 1918
Walker, Mrs. Cyrus 1917
Wallace, Mrs. Augustus H. 1914
Wallace, Col. Cranmore N. 1917
Warburg, F. M. 1917
Ward, Charles Willis 1916
Ward, Marcus L. 1908
Warner, Lucien C. 1917
Warren, George H. 1917
Warren, Mrs. E. Walpole 1918
Watson, Mrs. J. Henry 1916
Watson, Mrs. James S. 1911
Watson, Mrs. Thomas J. 1916
Watt, Mrs. Henry C. 1918
Webb, J. Griswold 1913
Webster, F. G. 1905
Webster, Mrs. Sidney 1913
Weeks, Henry De Forest 1909
Weeks, Hon. John W. 1917
Weld, Miss Elizabeth F. 1916
Wells, Mrs. Frederick L. 1911

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LIFE MEMBERS, continued

Welsh, Francis Ralston 1917
Westcott, Miss Margery D. 1912
Wetherill, S. P. 1917
Wetmore, George Peabody 1914
Wharton, William P. 1907
White, Windsor T. 1916
Whitfield, Miss Estelle 1917
Whiting, Miss Gertrude 1918
Whitman, William 1917
Williams, Mrs. C. Duane 1918
Williams, John D. 1909
Wilson, M. Orme 1917
Winchester Repeating Arms Co. 1918
Wiman, Dwight Deere 1917
Wister, John C. 1917
Wood, Mrs. Antoinette Eno. 1913
Wood, Walter 1917
Woodman, Miss Mary 1914
Woodward, Mrs. George 1908
Woolman, Edward 1916
Work, Mrs. A. 1917
Wyman, Mrs. Alfred E. 1914
Zabriskie, Mrs. Cornelius 1917

ANNUAL MEMBERS AND CONTRIBUTORS TO THE GENERAL FUND

Abbe, Miss H. C.	$5 00	Alexandre, Mrs. J. J.	$5 00	Appleton, W. S.	$5 00
Abbe, Dr. Robert	5 00	Alges, James W.	1 00	Archer, Mrs. G. A.	5 00
Abbey, Mrs. F. R.	5 00	Allen, Atkinson	5 00	Arent, Miss G. E.	5 00
Abbott, Miss M. S.	5 00	Allen, Miss C.	10 00	Armitage, Lucius	5 00
Abbott, Elizabeth T. and Hope	2 00	Allen, Clarence J.	5 00	Armour, A. V.	5 00
Abbott, Mrs. F. V.	5 00	Allen, C. L.	10 00	Armstrong, H. I.	5 00
Abbott, Holker	1 00	Allen, Miss E. H.	5 00	Armstrong, J. G.	5 00
Abbott, Mrs. John J.	5 00	Allen, John H.	5 00	Arnold, Mrs. A. H.	1 00
Abbott, Mrs. T. J.	5 00	Allen, Dr. J. W.	5 00	Arnold, Clarence M.	10 00
Abert, Benjamin	5 00	Allen, Miss Lucy E.	1 00	Arnold, Mrs. G. C.	5 00
Abrams, Mrs. A. E.	2 00	Allen, Miss M. W.	10 00	Arnold, Miss M.	5 00
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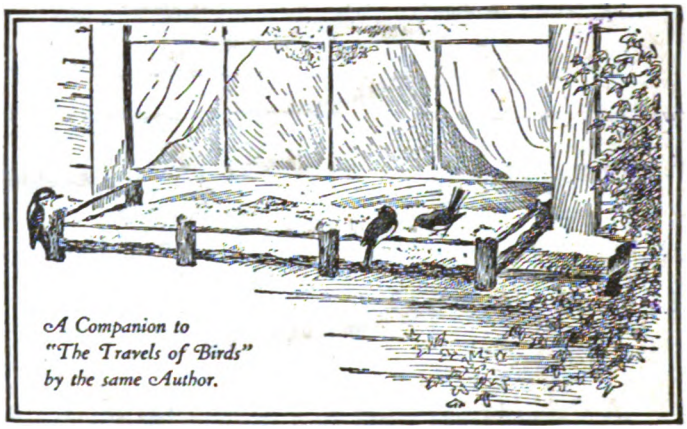

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